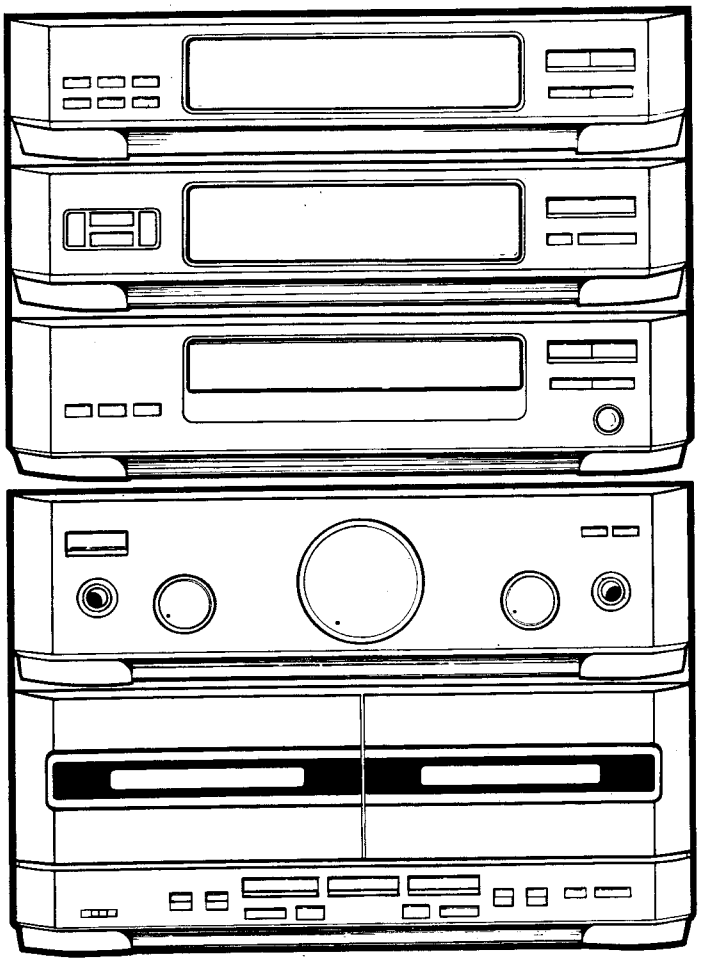
AKAI-01053

AKAI SERVICE MANUAL



COMPACT disc DIGITAL AUDIO

MINI COMPONENT SYSTEM

AC-MX470

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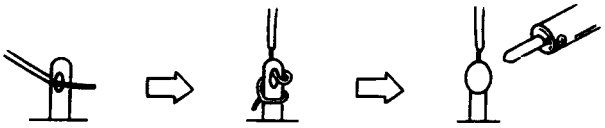
☆ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identifide by the ⚠ (*)symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specifide replacements.
   Examples: RF converters, tuner units, antenna select-switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers(insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Make sure that wires to do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can. Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

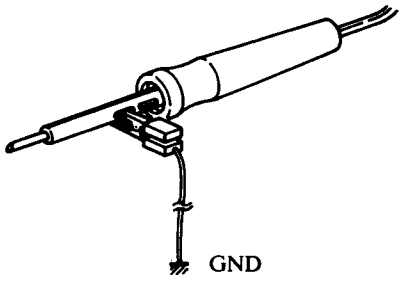
SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions.
The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M Ohms.

PRECAUTIONS IN REPAIRING

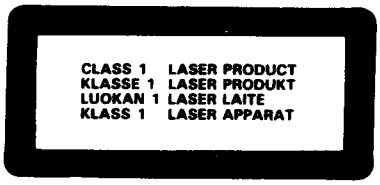
When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal obiects in the narrow gap between the P.C. board or the mecha parts and the base
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration.

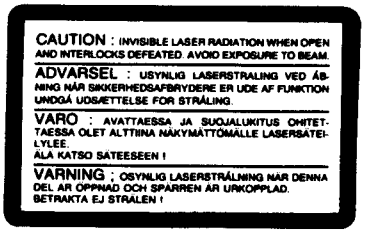


4. Do not loosen any screws in the pick-up block.
   When handing the pick-up block, please refer to the points to NOTE when replacing the pick up block.
5. To avoid hazardous invisible Laser Radiation, DO NOT look at the Laser Beam (Objective lens) directly.
6. On models for some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below
   For your safety, read these labels carefully when repairing or adjusting the unit.

[EUROPE, SCANDINAVIA, UK and AUSTRALIA]



Label affixed on the rear panel of the unit


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRALING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLEE.
ÄLÄ KATSO SÄTEESEEN !
VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL AR ÖPPNAD OCH SPARREN AR URKOPPLAD.
BETRAKTA EJ STRALEN !

Label affixed on the reverse side of the rear panel of the unit

☆ INFORMATIONS

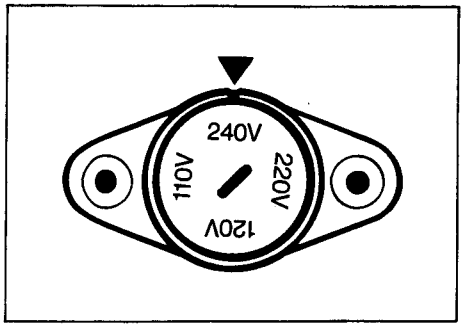
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

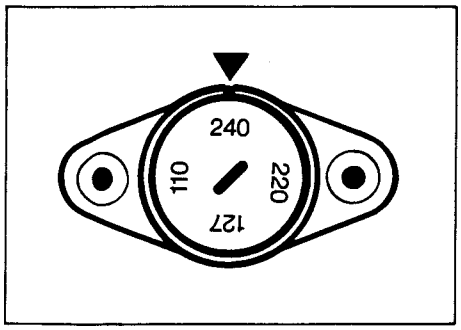
Symbol	Prinncipal Destination
[A]	USA
[B]	UK
[E]	Europe(except, UK)
[S]	Australia
[V]	Germany
[U]	Universal
[Y*]	Custom version

VOLTAGE CONVERSION ([U] [Y] Model only)

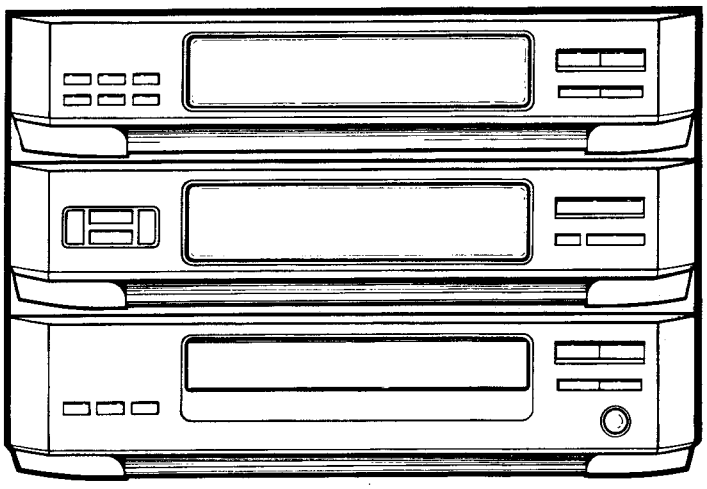
Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel of the MX115A so that the correct voltage for your area is indicated.



[U, Y_1, Y_2]



[Y_3, Y_4, Y_7]



MINI COMPONENT SYSTEM

AC-MX470T

SPECIFICATIONS

[**Tuner Section**]

Frequency range

FM ····· 87.5-108MHz(50KHz step)

MW ····· 531-1602KHz(9KHz step) [E/V/S/B/U5/Y1/Y3/Y7]
530-1610KHz(10KHz step) [U8/Y2/Y4]

LW ····· 146-281KHz(1KHz step)

SW ····· 3.8-12.5MHz(5KHz step)

Sensitivity

FM ····· 3μV(IHF, THD 3%) [EXCEPT V]
5μV(IHF, THD 3%) [V]

MW ····· 700μV(IHF, THD 10%)

LW ····· 1500μV(IHF, THD 10%)

SW ····· 30μV(IHF, THD 10%)

S/N ratio(IHF)

FM ····· MONO:70dB
Stereo:65dB

MW ····· 40dB

LW ····· 30dB

SW ····· 30dB

Total Harmonic distortion(at 1KHz)

FM ····· MONO:0.8%
Stereo:1.0%

MW ····· 1.0%

LW ····· 1.0%

SW ····· 2.0%

Stereo seperation ····· 35dB(at 1KHz)

[**Graphic Equlizer**]

Center frequency ····· 63Hz/160Hz/400Hz/1KHz
2.5KHz/6.3KHz/16KHz

Control range ····· ±8dB(2dB step)

[**CD Section**]

Pick up system ····· 3 Beam laser

Sampling frequency ····· 44.1KHz

Error correction system ····· Cross interleave reed solomon

Number of channels ····· 2 Channel

Frequency response ····· 20Hz~20KHz

S/N ratio ····· 90dB

Wow & flutter ····· Below measurable limits

Total harmonic distortion ····· 0.07% (at 1KHz)

Channel seperation ····· 85dB (at 1KHz)

Dynamic range ····· 85dB (at 1KHz)

[**General**]

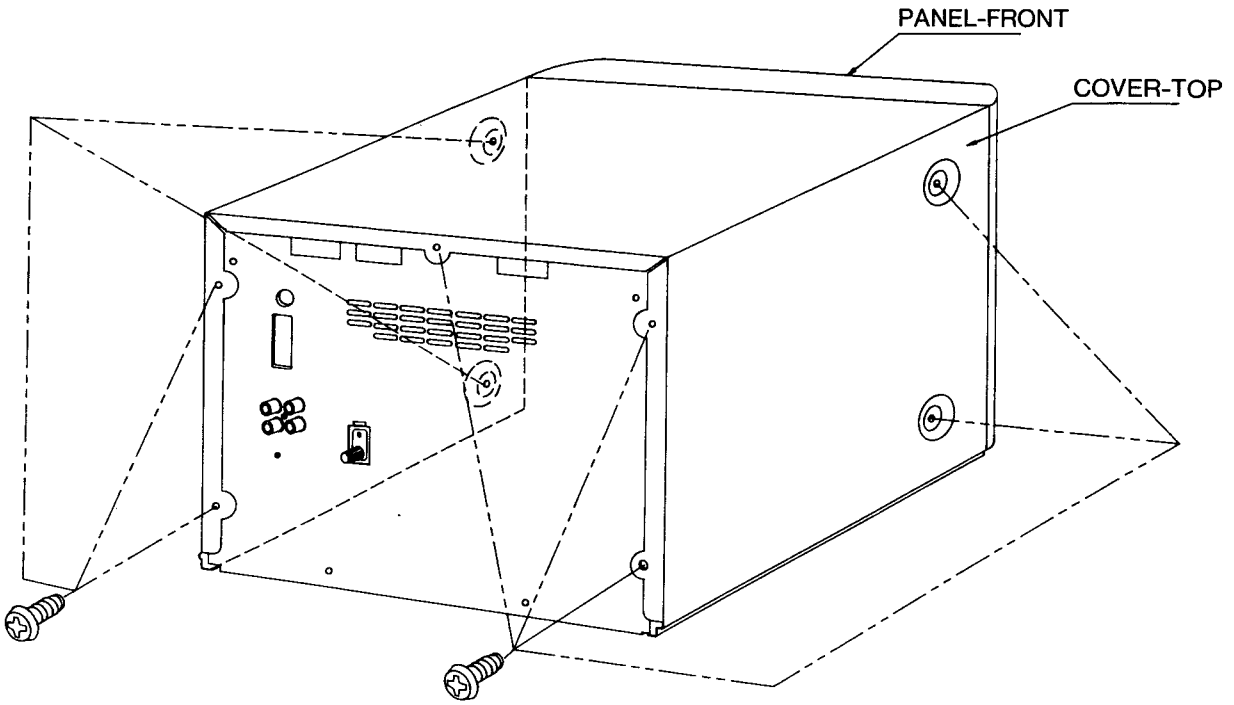
Dimention ····· 270(W)×194(H)×260(D)mm

Weight ····· 3.9Kg

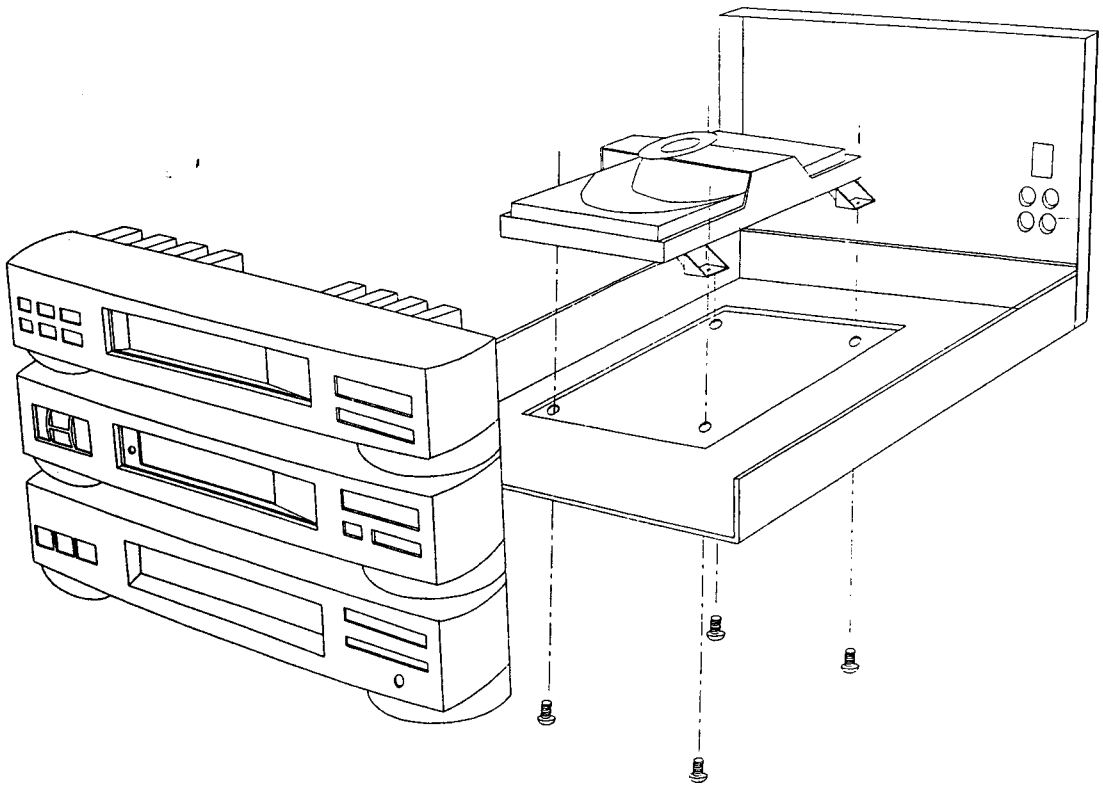
* For improvement purposes, specifications and design are subject to change without notice.

I. DISASSEMBLY

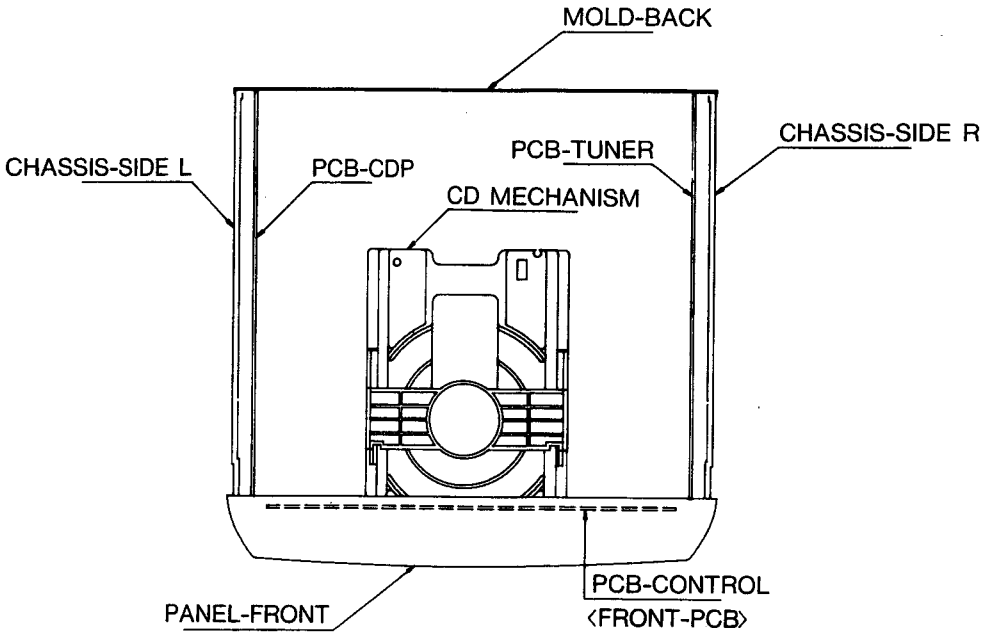
1. REMOVAL OF COVER-TOP



2. REMOVAL OF CD MECHA



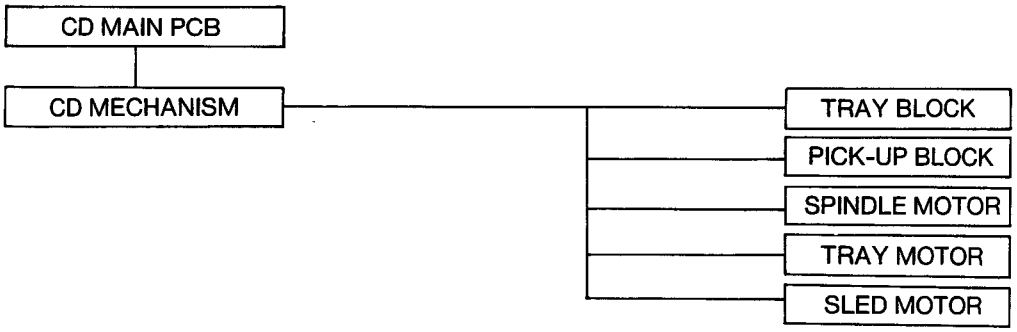
II. PRINCIPAL PARTS LOCATION



III. REPLACEMENT OF PRINCIPAL MECHANICAL PARTS

CD MECHANISM

1. DISMANTLING PROCEDURE OF THE COMPONENTS



2. REMOVAL OF THE CD MAIN PCB

1) Disconnect the four connectors carefully (These are on the front PCB. fig 1. WA101 ~ WA104).

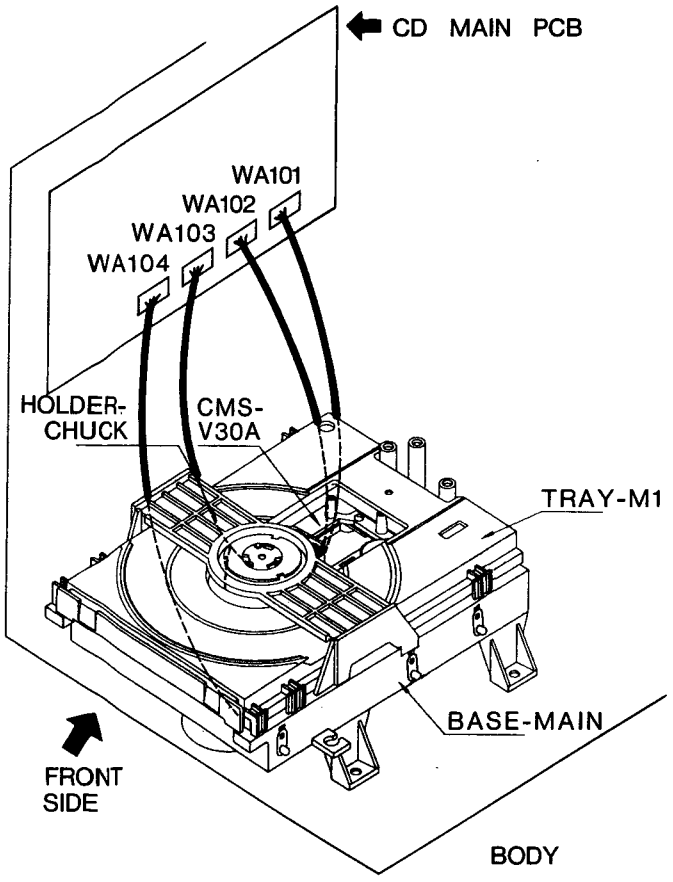


FIG. 1

3. REMOVAL OF THE CD MECHANISM

1) Remove the CD tray cover. (refer to disassembly of AC-MX115T on page 6)
2) Remove the four retaining screws, then remove the CD mecha. unit (fig 2)

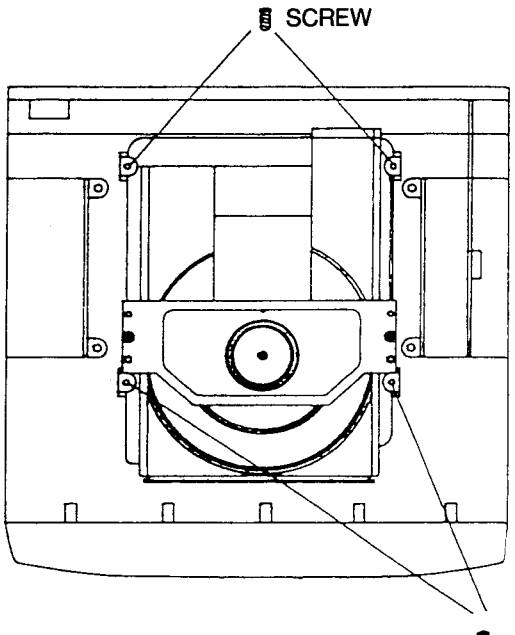


FIG. 2

4. REMOVAL OF THE TRAY BLOCK

1) Remove the four retaining screws for clamper and tray. (fig. 3)

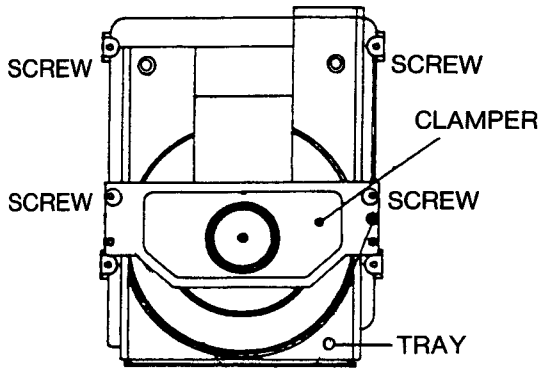


FIG. 3

2) Slide the bracket in the direction of the arrow (fig. 4)

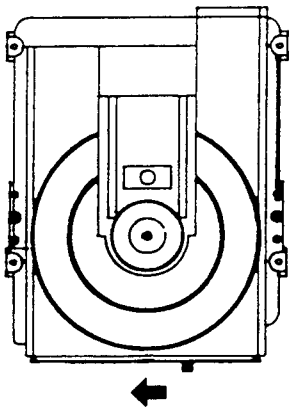


FIG. 4

3) Pull out the tray ass'y slowly in the direction of the arrow (fig. 5)

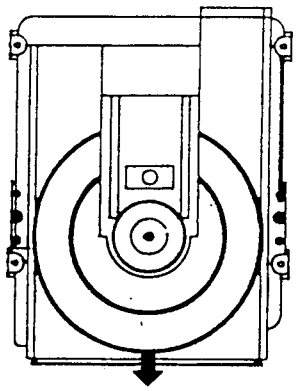


FIG. 5

4) Remove the tray block.

5. REPLACEMENT OF THE TRAY MOTOR

1) Remove the tray-belt
2) Unsolder the lead wires and PCB of the tran-motor with a soldering-iron.
3) Remove the tray-motor retaining screws.
4) Remove and replace the tray-motor.
5) Reassemble in the reverse order.

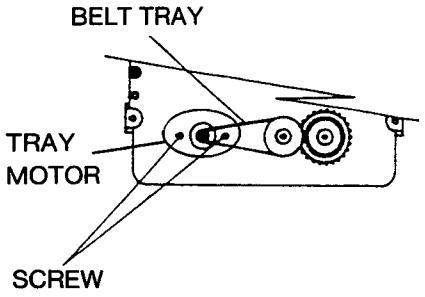
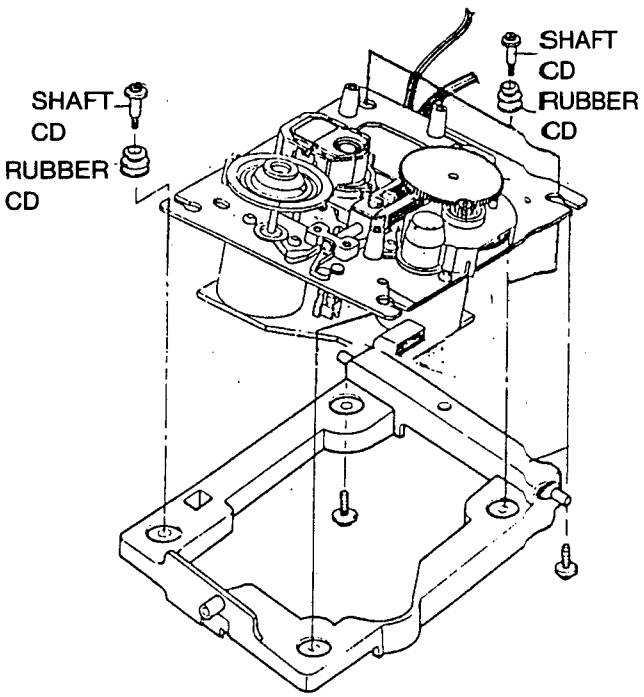


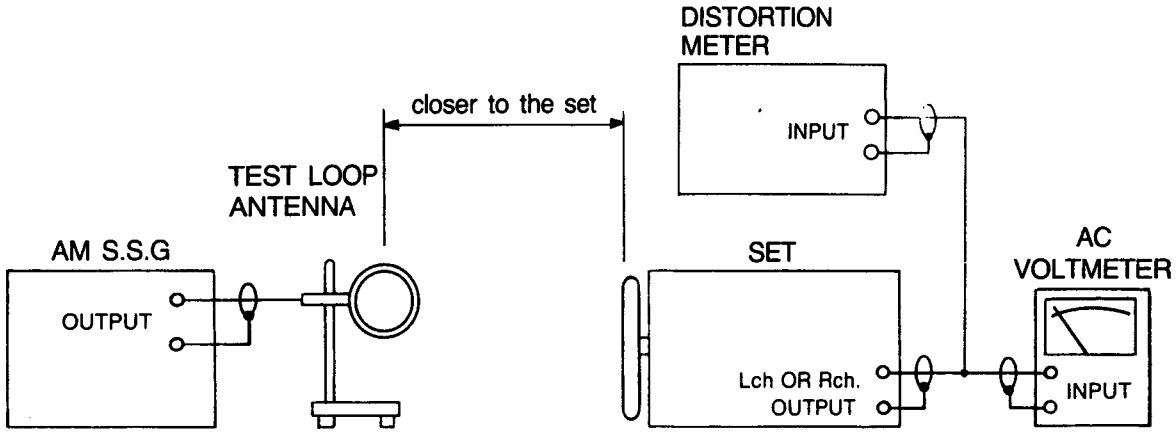
FIG. 7

6. REPLACEMENT OF THE SLED-MOTOR & REPLACEMENT OF THE SPINDLE -MOTOR

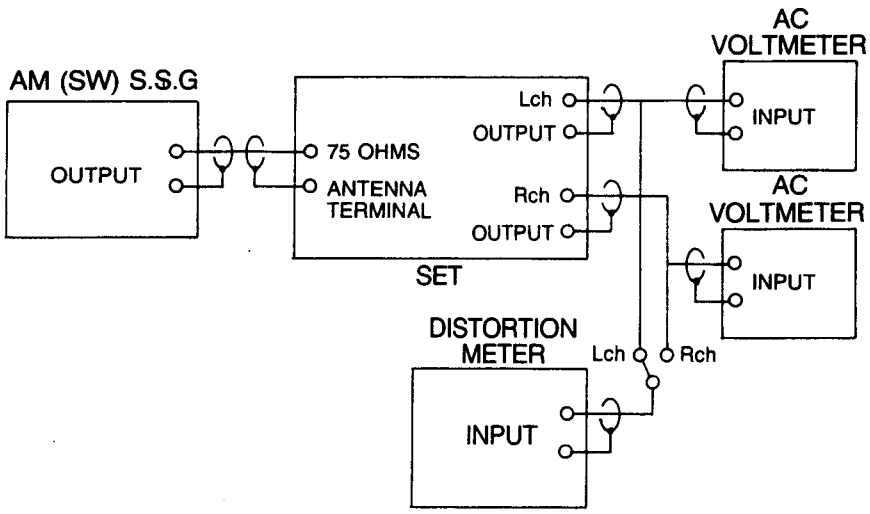
- Remove the four SHAFT CD and the four RUBBER CD for ASS'Y-MECHA FEED.
- Replacement of the spindle-motor and sled-motor itself is not recommended, because the adjustment of the turn table height is quite critical and necessitating the use of a special jig.
- Therfore, when need to replace the spindle-motor, please replace with a ASS'Y-MECHA FEED. (CD MECHA;CMS-V30A:ADCD-00110-031)



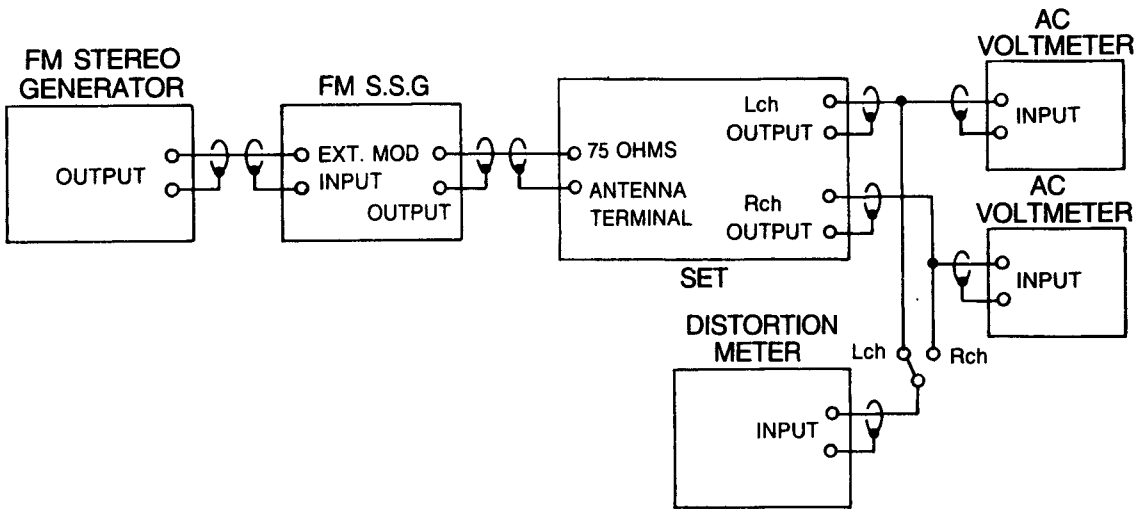
TUNER INSTRUMENT CONNECTIONS



Instrument connection for AM (MW, LW) section adjustment



Instrument connection for AM (SW) section adjustment



Instrument connection for FM section adjustment

TUNER ELECTRICAL ADJUSTMENT

NOTE: 1.Set the S.S.G. to 1kHz, 75kHz deviation for [U], [S], [B], [Y], [V2] or [E] model, 1kHz, 40kHz deviation for [V1] model.

STEP	ADJUSTMENT ITEM
1.	SSG FREQ. & OUTPUT LEVEL
2.	SET Tuning FREQ.
3.	ADJ. Part
4.	REMARKs(●) & RESULT(∗)

Test Point — Adjustment Part

FM

3 DISTORTION(STEREO)

1. 98.0MHz, 60dBμ(STEREO L or R channel only)
2. 98.0MHz
3. IFT(FRONT END)
4. ●Connect the distortion meter to LINE OUT, (J12)
   ∗ Minimum Distortion

1 CENTER VOLTAGE

1. 98.0MHz, 60dBμ(MONO)
2. 98.0MHz PRESET 3ch
3. T304
4. ●Connect the DC Digital Voltmeter to both ends of R354.
   ∗ 0+50mV

2 TUNING LED

1. 98.0MHz, 22dBμ(MONO)
2. 98.0MHz
3. Tuning LED on the front panel, SV303.
4. ∗ Tuning LED is lit.

4 STEREO SEPARATION

1. 98.0MHz, 60dBμ(STEREO L or R channel only)
2. 98.0MHz PRESET 3ch
3. SV301
4. ●Connect the milli-voltmeter to LINE OUT. (J12)
   ∗ Minimum output level for opposite channel.

LW ‹SW›

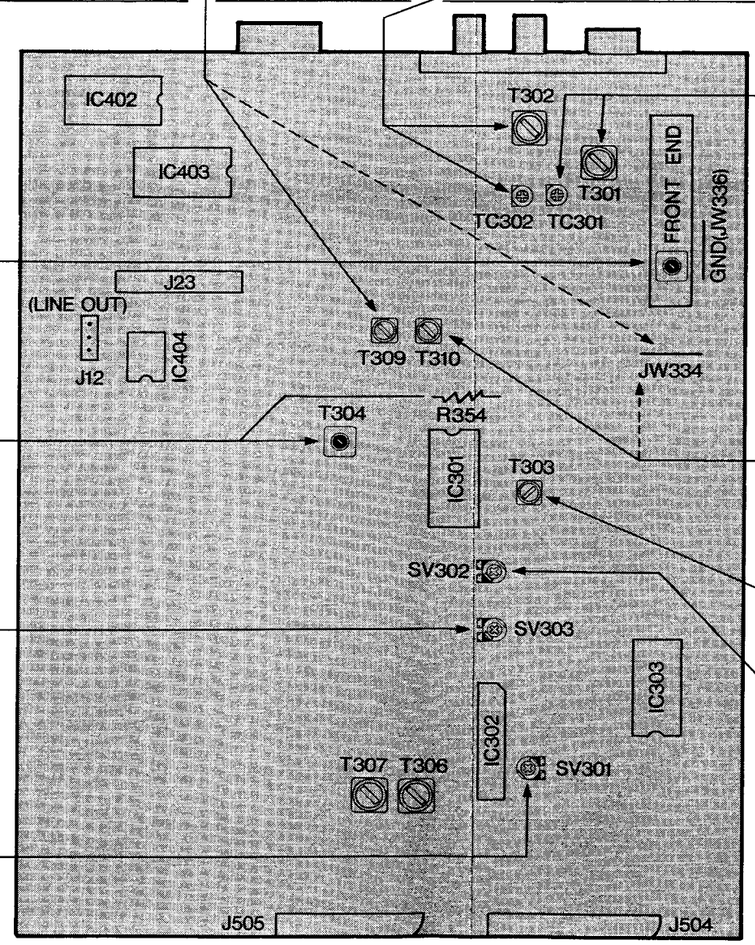
NOTE: 1. Set the S.S.G. to 1kHz 30% modulation on each adjustment.
2. Frequencies indicated in ‹ › are for the SW model.

1 LW ‹SW› OSC

1. -
2. 146kHz ‹3.8MHz› (preset 11ch) ‹11ch›
3. T309
4. ●Connect the Digital DC Voltmeter between JW304 and GND.
   ∗ 1.3+0.1V ‹1.3 + 0.1V›.

2 LW ‹SW› SENSITIVITY

1. LOW-160KHz, 70dBμ ‹4MHz, 35dBμ›
   High-260KHz, 70dBμ ‹12MHz, 35dBμ›
2. LOW-160KHz PRESET 12ch ‹4MHz 12ch›
   High-260KHz PRESET 14ch ‹12MHz 12ch›
3. T302(LOW), TC302(High)
4. ●Connect the milli-voltmeter to LINE OUT. (J12)
   ∗ Maximum output level
   ∗For best result, repeat Low and High adjustment several times.



‹TOP VIEW›

TUNER/G-EQ PCB (A2U-116)

FRONT

AM

NOTE: Set the S.S.G to 1kHz 30% modulation on each adjustment.

2 AM(MW) SENSITIVITY

1. 603kHz, 60dBμ(Low) or 1,404kHz, 60dBμ (High)
2. 603kHz(Low), PRESET 7 ch
   1,404kHz(High), PRESET 9 ch
3. T301(Low), TC301(High)
4. ●Connect the milli-voltmeter to LINE OUT. (J12)
   ∗ Maximum output level.
   ∗For best result, repeat Low a High adjustments several times.

1 AM(MW) OSC

1. -
2. 531kHz(PRESET 6 ch)
3. T310
4. ●Connect the Digital DC Voltmeter between JW334 and GND.
   ∗ 1.0 + 0.1V

3 AM IF

1. 603kHz, 74dBμ
2. 603kHz
3. T303
4. ●Connect the milli-voltmeter to LINE OUT. (J12)
   ∗ Maximum output level.

4 TUNING LED

1. 603kHz, 65dBμ
2. 603kHz
3. Tuning LED on the front panel, SV302
4. ∗ Tuning LED is lit.

CD ELECTRICAL ADJUSTMENT

※ Test mode can be selected the following method
1. While pressing the random key and skip-(⏮)
2. Insert the AC Cord.

STEP	ADJUSTMENT
	1. TEST DISC 2. MODE or TEST mode 3. TEST POINT and ADJUSTMENT parts. 4. REMARK(●), RESULT(∗)

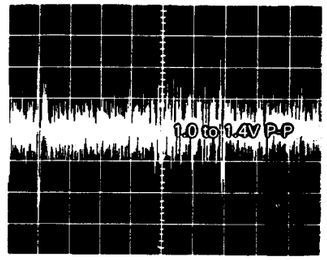
Test point　　ADJ. part

TEST MODE	HOW TO SET EACH MODE	FUNCTION	MUSIC CALENDER
1	While pressing the RANDOM key and (skip-) insert the power cord.	●Indicates that unit is set into the TEST mode.	1
2	Press the PLAY/ PAUSE button	●FOCUS SERVO is on.	2
3	Press the PLAY/ PAUSE button	●CLV-S SERVO is on.	3
4	Press the PLAY/ PAUSE button	●TRACKING SERVO is on.	4
5	Press the PLAY/ PAUSE button	●CLV-A and SLED SERVO are on.	5
6	Press the PLAY/ PAUSE button	●ANTI SHOCK is on.	6

- The disc tray can be opened or close by pressing the open/close button (during any mode). After opening the tray, closing it will move the pick up to the inward position and return the unit to the TEST MODE 1.
- Pressing the stop button will return the unit to the TEST MODE 1 regardless of the test mode presently engaged. However, the pick up will not be moved.
- TAKE OUT the AC cord in order to cancel the TEST mode.

3 FOCUS SERVO GAIN

1. Test disc A-BEX TCD-781
2. Test mode 4
3. WA102 ⑧ pin/SV103
4. ●Connect an oscilloscope to the WA102 Connector ⑧ pin
   ∗ 1.0 to 1.4Vp-p

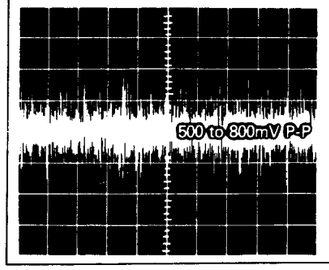


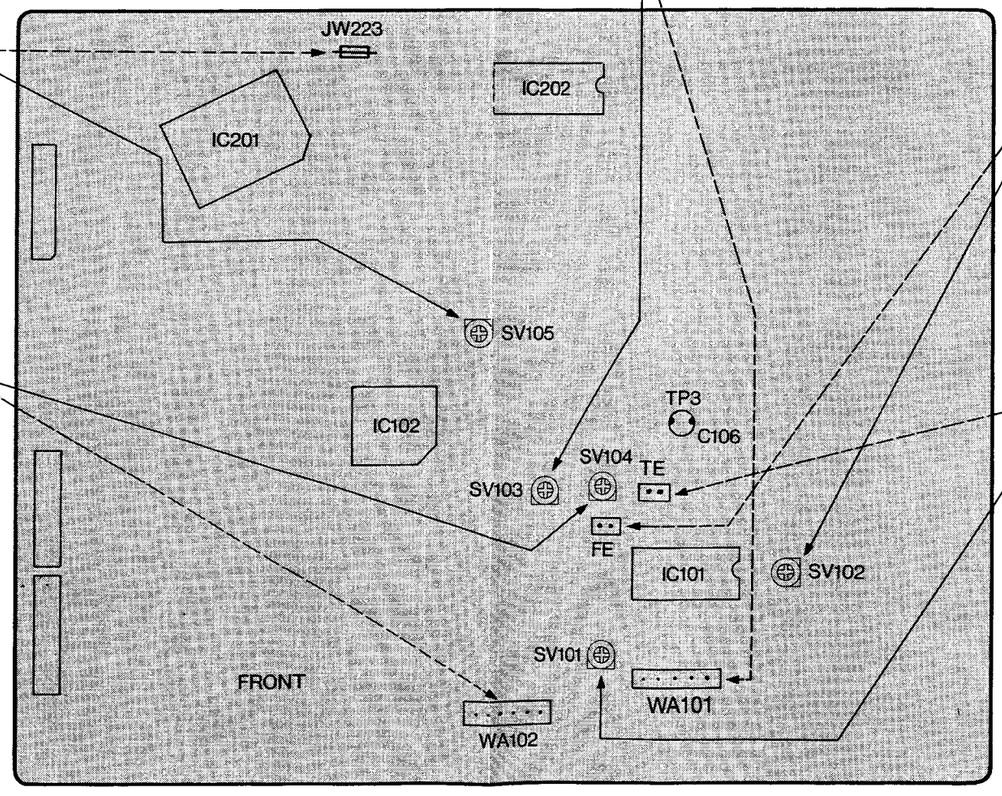
1 VCO

1. -
2. Test mode 1
3. JW223/SV105
4. ●Connect the GND to TP3.
   ●Connect a frequency counter to the JW223
   ∗ 7,700 ± 10Hz

4 TRACKING SERVO GAIN

1. Test disc A-BEX TCD-781
2. Test mode 4
3. WA102 ⑥ pin/SV104
4. ● Connect an oscilloscope to the WA102 connector ⑥ pin.
   ∗ 500 to 800mVp-p





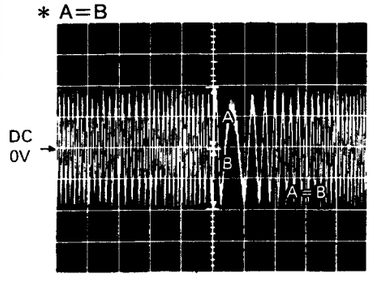
〈TOP VIEW〉
CD P.C BOARD (A2U-115)

5 FOCUS OFF-SET

1. Test disc A-BEX TCD-781
2. Test mode 2 and 1
3. FE/SV102
4. ●Connect a digital DC voltmeter to the FE and check the voltage A in the test mode 2, then press STOP button and adjust the voltage B so that the reading on the digital DC voltmeter is the same as voltage A.
   ∗ A=B

2 E-F BALANCE

1. Test disc A-BEX TCD-781
2. Test mode 3
3. TE/SV101
4. ●Connect an oscilloscope to the TE
   ∗ A=B



ATTENTION

1. When placing an order for parts, be sure to list Part No, Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

[NOTE]

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.

WARNING

⚠ (*) INDICATED SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

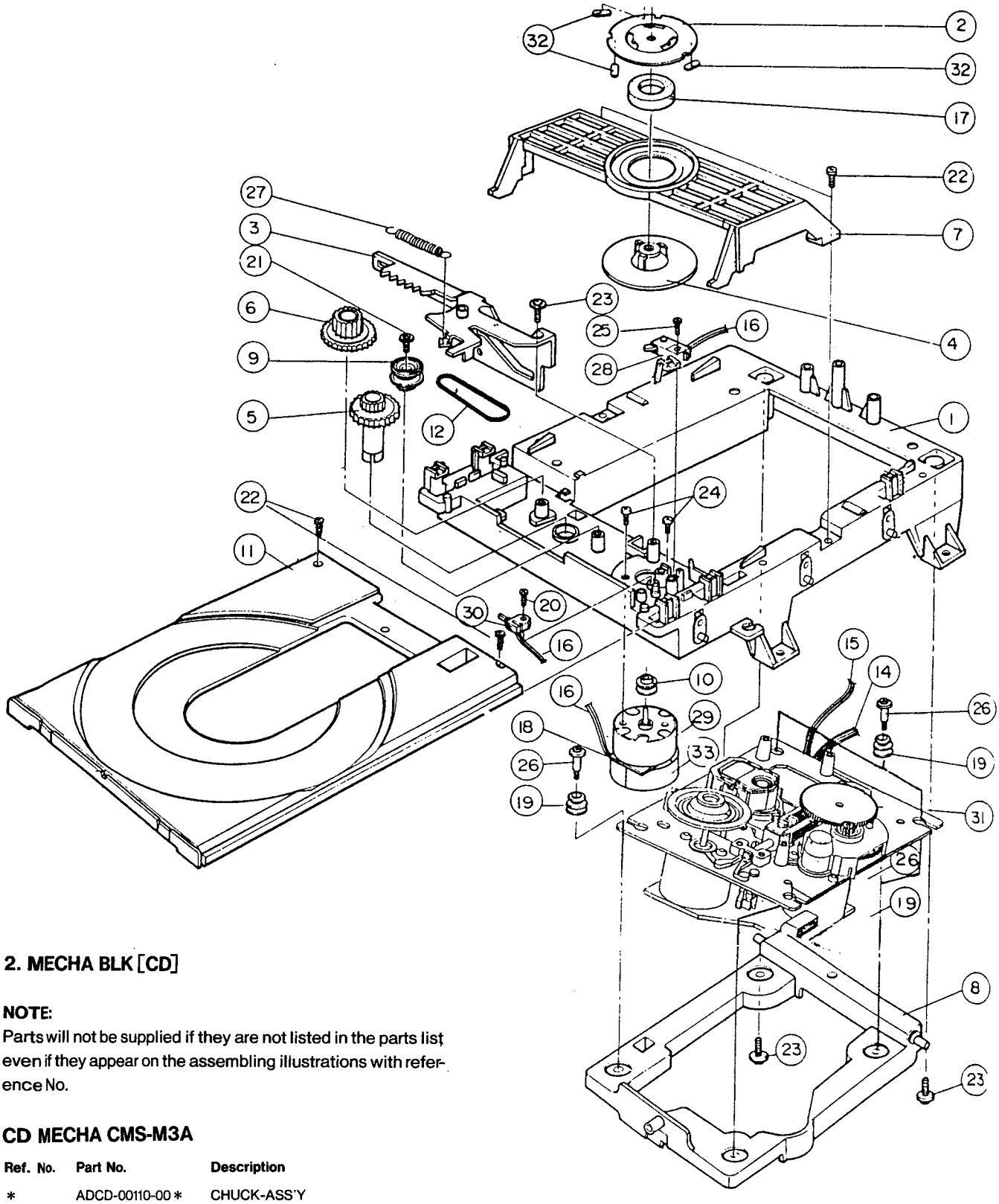
AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service

Ref. No.	Part No.	Description
1	BTBP-00011-BPM	FILTER-MICA PRINT [V_2] BPMB6A 88-108MHz
2	BTCE-00050-004	FILTER-CERAMIC SFU 450B
3	BTCE-00060-107	FILTER-CERAMIC [EXCEPT V_1] SFE 10.7MS3G-A
4	BTCE-00152-107	FILTER-CERAMIC [V_1] SFE 10.7MJA 10H-A
5	BTCE-00270-004	FILTER-CERAMIC BFU 450C4N
6	DDSV-00030-S30	D-VVC 1SV149 AM 8V
7	DDTR-00020-T10	D-RECTIFIER 1N4002
8	DDTS-00030-SO0	D-SI LICON 1S2471
9	DDTS-00070-SO0	D-SI LICON [U, Y] 1SS133
10	DDTS-00100-SO0	D-SI LICON 1SS135
11	DDTZ-G033B-SO0	D-ZENER MTZ3.3B
12	DDTZ-G051B-SO0	D-ZENER MTZ5.1B
13	DDTZ-G056B-SO0	D-ZENER MTZ5.6B
14	DDTZ-G062B-SO0	D-ZENER MTZ6.2B
15	DDTZ-G075B-SO0	D-ZENER MTZ7.5B
16	DDTZ-G082C-SO0	D-ZENER MTZ8.2C
17	DECD-00110-00F	MECHA CD CMS-M3A
18	DPFL-00210-00T	FLD CD/TUNER SVA-11SS01
19	DPFL-00220-00E	FLD EQ SVA-14BE01
20	ICCM-00170-SQ0	IC GD4052B
21	ICCM-20350-TQ0	IC XR-1091
22	ICCM-20360-T90	IC S80721AN
23	ICCM-20380-S10	IC LC7218
24	ICCM-20390-SG0	IC NJU7305
25	ICCM-20540-SQ0	IC GD74LS05
26	ICDG-00590-SE0	IC KDA0316
27	ICDG-00870-SE0	IC KS9210
28	ICHY-00140-SB0	IC RPM-676CBR-L
29	ICLN-00070-SD0	IC KIA7343P
30	ICLN-00220-S10	IC LA1265
31	ICLN-00710-S90	IC M5229P
32	ICLN-01330-SE0	IC KA8309
33	ICLN-01340-SE0	IC KA9201D
34	ICMP-00591-SA0	IC HD4074719A34FS
35	ICMP-00670-S90	IC M38173M6-162FP
36	ICOP-00130-SE0	IC KA4558S
37	ICOP-00131-SE0	IC KA4558C
38	ICPR-00040-SO0	IC ICP-N15-0.6A
39	ICRG-00040-SE0	IC KA7805C
40	ICRG-00220-SE0	IC MC79L05-5V
41	IFAA-00140-E10	IFT-AM AAA014
42	IFFD-00081-E10	IFT-FM DET AFD008A
43	KIAO-00240-E20	COIL-AM OSC AAO024 MW
44	KIAO-00250-E20	COIL-AM OSC [E, B] AAO025 LW
45	KIAO-00260-E20	COIL-AM OSC [U, Y] AAO026 SW
46	KIAT-00301-E20	COIL-AM ANT [E, B] AAT030-1 LW
47	KIAT-00351-E20	COIL-AM ANT AAT035-1 MW
48	KIAT-00370-E20	COIL-AM ANT [U, Y] AAT037 SW
49	KIML-A0010-E60	COIL-FM MPX AMA-001A 19KHz
50	KIML-A0020-E20	COIL-FM MPX AFL002 114KHz
51	KI0T-3101K-002	COIL-INDUCTOR T 30 100μH
52	KTAL-00040-072	CRYSTAL HC-49/U 7.2MHz
53	KTAL-00101-003	CRYSTAL KDSIF 32.768KHz-20P
54	KTAL-00210-169	CRYSTAL HC-49/U 16.9344MHz
55	KTRE-00160-060	RESONATOR CST6.00MGW 6.00MHz
56	KTRE-00170-042	RESONATOR CST4.19MGW 4.19MHz
57	SKRC-00300-040	SOCKET-RCA JK0400910N 4P
58	SWTA-00220-060	SWITCH-TACT SKHV10910
59	SWTA-00230-06V	SWITCH-TACT SKHH17910A
60	TEAT-00051-03R	TERMINAL AK1/2-1058A
61	TRSB-0014Y-SE0	TR KSB772-Y
62	TRSD-0012Y-SE0	TR KSD882-Y
63	TRTA-0008G-SD0	TR KTA1266-GR
64	TRTA-0008Y-SD0	TR KTA1266-Y
65	TRTA-0041E-SOS	TR DTA144E-S
66	TRTA-0043E-SOS	TR DTA114E-S W/RESIST
67	TRTC-0001B-SD0	TR KTC2878-B
68	TRTC-00100-S30	TR 2SC1923-O
69	TRTC-0016G-SD0	TR KTC3198-GR
70	TRTC-0039Y-SD0	TR KTC3205-Y
71	TRTC-0060E-SOS	TR DTC144E-S
72	TRTC-0061E-SOS	TR DTC124E-S
73	TRTC-0063W-SOS	TR DTC144W-S
74	TRTC-0070Z-SOS	TR DTC143Z-S
75	TRTD-00200-SD0	TR KTD-1302
76	TRTK-0001G-S30	FET 2SK246-GR
77	TUFF-00120-00D	FRONT-END [V_1] FE415-G11 FTZ
78	TUFF-00150-001	FRONT-END [EXCEPT V_1] FE340-A01 12V
79	VCTC-00022-300	TR IMMER CVCN06C300
80	VFEB-A001B-104	R-SEMI FIXED EVN DXA A03 B15 100kohm
81	VFEB-A001B-222	R-SEMI FIXED EVN DXA A03 BE3 2.2kohm
82	VFEB-A001B-223	R-SEMI FIXED EVN DXA A03 BE4 22kohm
83	VFEB-A001B-472	R-SEMI FIXED EVN DXA A03 BQ3 4.7kohm

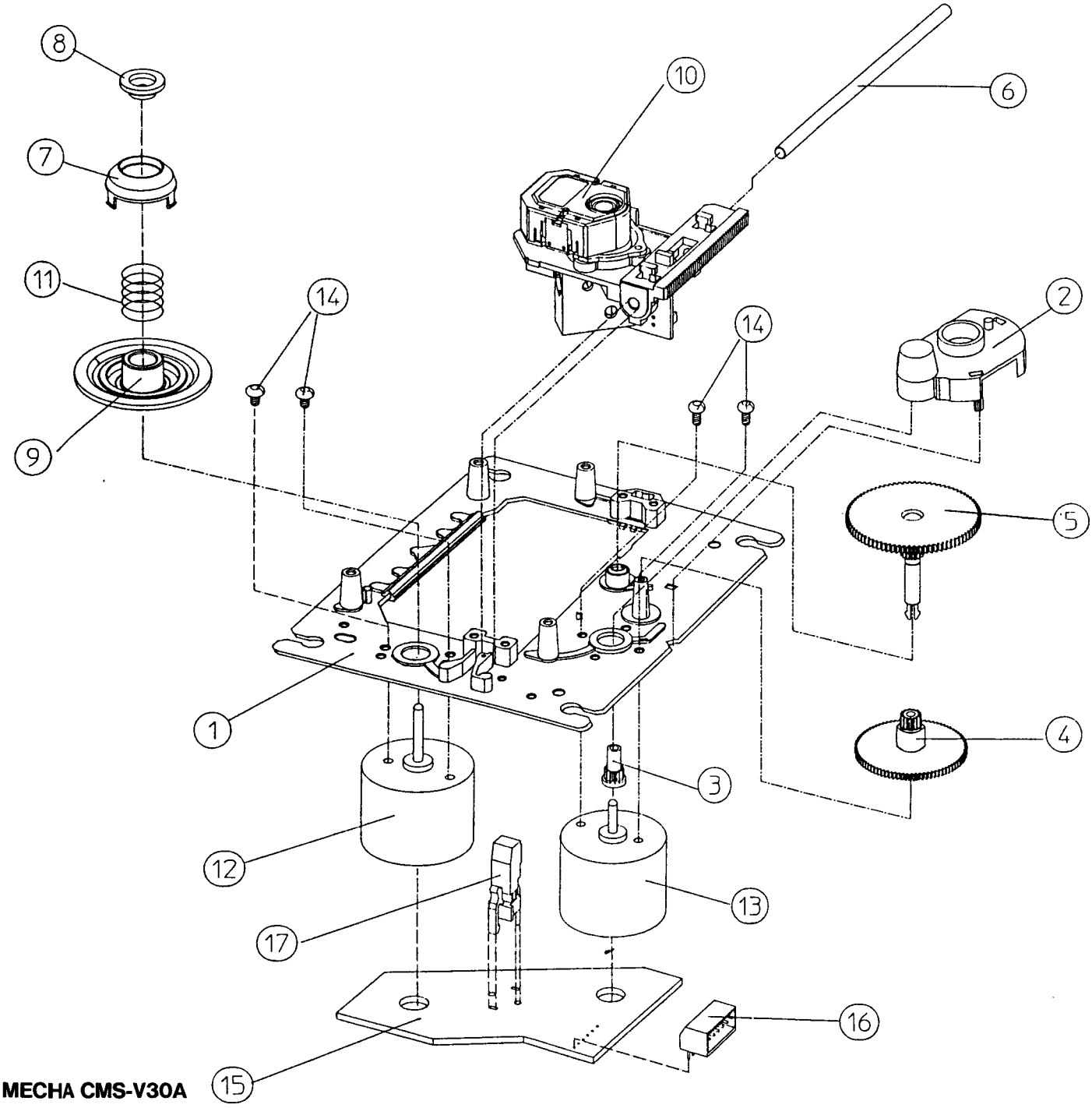


2. MECHA BLK [CD]

NOTE:
Parts will not be supplied if they are not listed in the parts list even if they appear on the assembling illustrations with reference No.

CD MECHA CMS-M3A

Ref. No.	Part No.	Description
*	ADCD-00110-00*	CHUCK-ASS'Y NO(2)+(32)+(17)+(7)+(4)
1	ADCD-00110-001	BASE-MAIN;ABS BLACK
5	ADCD-00110-005	GEAR(A);WHT
6	ADCD-00110-006	GEAR(B);POM BLK
11	ADCD-00110-011	TRAY;ABS BLK
12	ADCD-00110-012	BELT
19	ADCD-00110-019	RUBBER-CD SI WHT45
23	ADCD-00110-023	SCREW;TAP 3×8(WASHER) 17154-100-640
26	ADCD-00110-026	SHAFT-CD;FE FZY
27	ADCD-00110-027	SPRING-CAM STSWP10.2
28	ADCD-00110-028	SWITCH-LEAF;MLS-1
29	ADCD-00110-029	MOTOR;RF-500TB-12560
30	ADCD-00110-030	SWITCH-MICRO LSPPB11
31	ADCD-00110-031	DECK-CD;CMS-V30A



CD MECHA CMS-V30A

Ref. No.	Part No.	Description
1	ADCD-00110-101	CHASSIS-DECK(M)
2	ADCD-00110-102	COVER-GEAR
3	ADCD-00110-103	GEAR(A)
4	ADCD-00110-104	GEAR(B)
5	ADCD-00110-105	GEAR(C)
6	ADCD-00110-106	SHAFT-P/U
7	ADCD-00110-107	CENTER RING
8	ADCD-00110-108	CENTER KNOB
9	ADCD-00110-109	T/TABLE
10	ADCD-00110-110	LASER PICK-UP
11	ADCD-00110-111	SPRING-T/TABLE
12	ADCD-00110-112	MOTOR-SPINDLE
13	ADCD-00110-113	MOTOR-FEED
14	ADCD-00110-114	SCREW-PH
17	ADCD-00110-117	SWITCH-LEAF

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	PCSU-02280-11B	FRONT P.C BOARD A1U-228 247×197×1.6t
2	PCSU-01150-21B	TUNER P.C BOARD A2U-115 197×163×1.6t
3	PCSU-01160-21B	CD P.C BOARD A2U-116 247×163×1.6t

4. FRONT P.C BOARD (A1U-228A)

Ref. No.	Part No.	Description
D502	DDTR-00020-T10	D-RECTIFIER 1N4002(100V 1A)
D505		
D501	DDTS-00030-SO0	D-SI LICON 1S2471
D506		
D512		
D513		
D514		
D516		
ZD503	DDTZ-G056B-SO0	D ZENER MTZ5.6B
ZD504		
ZD502	DDTZ-G062B-SO0	D ZENER MTZ6.2B
FL501	DPFL-00210-00T	FLD CD/TUNER SVA-11SS01
FL502	DPFL-00220-00E	FLD EQ SVA-14BE01
IC504	ICCM-20350-TQ0	IC XR-1091
IC506	ICCM-20360-T90	IC S80721AN
IC502	ICMP-00591-SA0	IC HD4074719A34FS
IC501	ICMP-00670-S90	IC M38173M6-162FP
X502	KTAL-00101-003	CRYSTAL KDSIF 32.768KHz-20P
X501	KTRE-00160-060	RESONATOR CST6.00MGW 6.00MHz
X503	KTRE-00170-042	RESONATOR CST4.19MGW 4.19MHz
S501	SWTA-00220-060	SWITCH-TACT SKHV10910 12V 50mA
S502		
S503		
S504		
S505		
S506		
S507		
S508		
S509		
S510		
S511		
S512		
S513		
S514		
S515		
S516		
S517		
S518		
S519		
S520		
S521		
S522		
S523		
S524		
S525		
Q104	TRTA-0041E-SOS	TR DTA144E-S
Q109		
Q106	TRTA-0043E-SOS	TR DTA114E-S
Q107	TRTC-0016G-SD0	TR KTC3198-GR
Q103	TRTC-0060E-SOS	TR DTC144E-S
Q108		
Q105	TRTC-0061E-SOS	TR DTC124E-S
Q101	TRTD-00200-SD0	TR KTD-1302
Q102		
Q110		
Q111		

5. REMOTE SENSOR P.C BOARD

Ref. No.	Part No.	Description
IC505	ICHY-00140-SB0	IC REMOTE RECEIVER RPM-676CBR-L

6. TUNER/G-EQ P.C BOARD

Ref. No.	Part No.	Description
BPF301	BTBP-00011-BPM	FILTER-MICA PRINT [V_2] BPMB6A 88-108MHz
X303	BTCE-00050-004	FILTER-CERAMIC SFU 450B
X301	BTCE-00060-107	FILTER-CERAMIC [EXCEPT V_1] SFE 10.7MS3GA
X302		
X301,X302	BTCE-00152-107	FILTER-CERAMIC [V_1] SFE 10.7MS3G-A
X1	BTCE-00270-004	FILTER-CERAMIC BFU450C4N
VD301	DDSV-00030-S30	DIODE-VVC 1SV149 [S, V_1, V_2]
VD302		[E, B, U, Y]
VD303		[S, V_1, V_2]
VD304		[E, B, U, Y]
D301	DDTS-00070-SO0	D-SI LICON 1SS133
D302		
D303		
D304		
D305		
D306		
D307		
D308		[E, B, U, Y]
D309		
D310		
D311		
D312		
D313		
D401		
D402		
D403		
D404		
D405		
D406		
D407		
D408	DDTS-00100-SO0	D-SI LICON [U, Y] 1SS135
D409		
ZD401	DDTZ-G051B-SO0	D ZENER MTZ5.1B
ZD402		
ZD403	DDTZ-G082C-SO0	D ZENER MTZ8.2C
ZD405		
IC402	ICCM-00170-SQ0	IC GD4052B
IC403		
IC303	ICCM-20380-S10	IC LC7218
IC406	ICCM-20390-SG0	IC NJU7305
IC302	ICLN-00070-SD0	IC KTA7343P
IC301	ICLN-00220-S10	IC LA1265
IC405	ICLN-00710-S90	IC M5229P
IC407		
IC401	ICOP-00131-SE0	IC KA4558C
IC404		
T303	IFAA-00140-E10	IFT-AM AAA014
T304	IFFD-00081-E10	IFT-FM DET AFD008A
T308	KIAO-00240-E20	COIL-AM OSC AAO024 MW
T309	KIAO-00250-E20	COIL-AM OSC AAO025 LW [E, B]
	KIAO-00260-E20	COIL OSC AAO-026 SW [U, Y]
T302	KIAT-00301-E20	COIL-AM ANT AAT030-1 LW [E, B]
	KIAT-00370-E20	COIL-AM ANT AAT-037 SW [U, Y]
T301	KIAT-00351-E20	COIL-AM ANT AAT035-1 MW

T306	KIML-A0010-E60	COIL-FM MPX AMA-001A 19KHz
T307		
T305	KIML-A0020-E20	COIL-FM MPX AFL002 114KHz [V_1, V_2]
X304	KTAL-00040-072	CRYSTAL HC-49/U 7.2MHz
SK401	SKRC-00300-040	SOCKET-RCA JK0400910N 4P
S401	SWTA-00230-06V	SWITCH-TACT SKHH17910A
TE301	TEAT-00051-03R	TERMINAL ANTENNA AK1/2-1058A
Q307	TRTA-0008Y-SD0	TR KTA1266-Y [E, B, U, Y]
Q308		
Q309		
Q314		
Q319	TRTA-0041E-SOS	TR DTA144E-S
Q316	TRTC-0001B-SD0	TR KTC2878-B
Q317		
Q301	TRTC-0010O-S30	TR 2SC1923-O
Q302	TRTC-0016G-SD0	TR KTC3198-GR
Q303		
Q306		
Q315		
Q318		
Q320		
Q321		
Q310	TRTD-00200-SD0	TR KTD-1302
Q311		[E, B, U, Y]
Q305	TRTK-0001G-S30	FET 2SK246-GR
FE301	TUFF-00150-001	FRONT-END [EXCEPT V_1] FE340-A01 12V
FE301	TUFF-00150-001	FRONT-END [V_1] FE415-G11
TC301	VCTC-00022-300	TRIMMER CVCN06C300
TC302		[E, B, U, Y]
SV303	VFEB-A001B-104	R-SEMI FIXED EVN DXA A03 B15 100kohm
SV301	VFEB-A001B-472	R-SEMI FIXED EVN DXA A03 BQ3 4.7kohm
SV302		
J23	WB37-B1770-200	WIRE-ASS'Y FLAT 11P 700

7. CD P.C BOARD

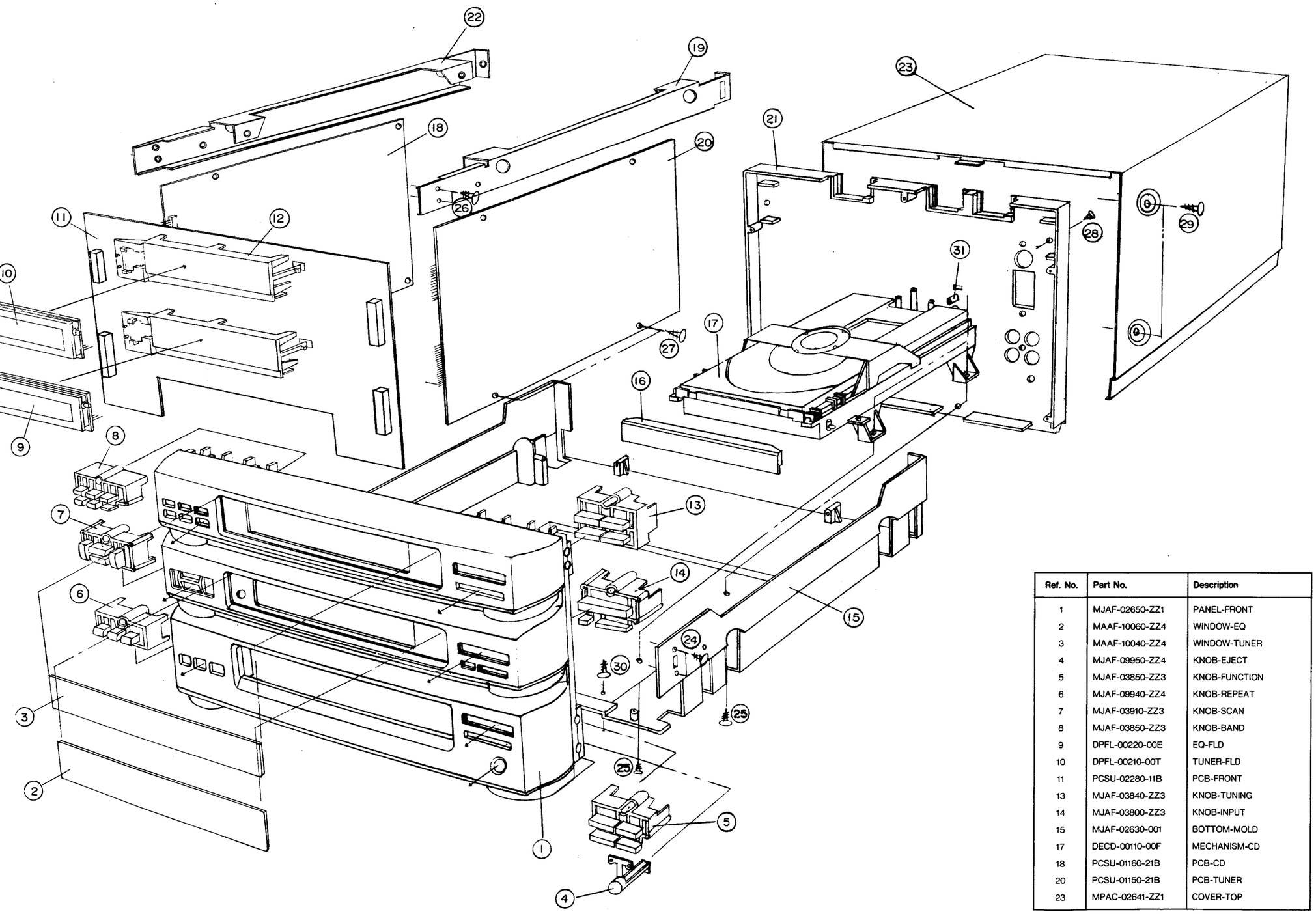
Ref. No.	Part No.	Description
D201	DDTR-00020-T10	D-RECTIFIER 1N4002(100V 1A)
D202		
D203	DDTS-00070-SO0	D-SI LICON 1SS133
D204		
D205		
D207		
D208		
D209		
D210		
D211		
D212		
D213		
D214		
ZD203	DDTZ-G033B-SO0	D ZENER MTZ3.3B
ZD204		
ZD205		
ZD206		
ZD202	DDTZ-G056B-SO0	D ZENER MTZ5.6B
ZD201	DDTZ-G075B-SO0	D ZENER MTZ7.5B
IC202	ICDG-00590-SE0	IC KDA0316
IC201	ICDG-00870-SE0	IC KS9210
IC102	ICLN-01330-SE0	IC KA8309
IC101	ICLN-01340-SE0	IC KA9201D
IC203	ICOP-00130-SE0	IC KA4558S
IC204		
IC103	ICPR-00040-SO0	IC ICP-N15-0.6A
IC104		
IC205	ICRG-00040-SE0	IC KA7805C
IC206	ICRG-00220-SE0	IC MC79L05
L101	KI0T-3101K-002	COIL 100μH K
X201	KTAL-00210-169	CRYSTAL HC-49/U 16.9344MHz
Q103	TRSB-0014Y-SE0	TR KSB772-Y
Q105		
Q109		
Q102	TRSD-0012Y-SE0	TR KSD882-Y
Q104		
Q108		
Q101	TRTA-0008G-SD0	TR KTA1266-GR
Q205		
Q208		
Q212		
Q107	TRTA-0012Y-SD0	TR KTA1273-Y
Q111		
Q112		
Q209		
Q211		
Q202	TRTC-0001B-SD0	TR KTC2878-B
Q203		
Q113	TRTC-0016Y-SD0	TR KTC3198-Y
Q114		
Q115		
Q201		
Q106	TRTC-0039Y-SD0	TR KTC3205-Y
Q210	TRTC-0063W-SOS	TR DTC144W-S
Q213		
Q204	TRTC-0070Z-SOS	TR DTC143Z-S
Q206	TRTD-00200-SD0	TR KTD-1302
Q207		
SV105	VFEB-A001B-222	R-SEMI FIXED EVN DXA A03 BE3 2.2kohm
SV101	VFEB-A001B-223	R-SEMI FIXED EVN DXA A03 BE4 22kohm
SV102		
SV103		
SV104		
J6	WF37-B1770-200	WIRE-ASS'Y FLAT 15P 700
J17	W937-B1770-200	WIRE-ASS'Y FLAT 9P 700

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

8. ACCESSARY

Ref. No.	Part No.	Description
1	ANTL-00060-E50	ANTENNA-LOOP AAN-007 19.5μH 7T 125×93
2	ANTW-00020-202	ANTENNA-WIRE AFN-002 1007#24-2000mm

9. FINAL ASSEMBLY



Ref. No.	Part No.	Description
1	MJAF-02650-ZZ1	PANEL-FRONT
2	MAAF-10060-ZZ4	WINDOW-EQ
3	MAAF-10040-ZZ4	WINDOW-TUNER
4	MJAF-09950-ZZ4	KNOB-EJECT
5	MJAF-03850-ZZ3	KNOB-FUNCTION
6	MJAF-09940-ZZ4	KNOB-REPEAT
7	MJAF-03910-ZZ3	KNOB-SCAN
8	MJAF-03850-ZZ3	KNOB-BAND
9	DPFL-00220-00E	EQ-FLD
10	DPFL-00210-00T	TUNER-FLD
11	PCSU-02280-11B	PCB-FRONT
13	MJAF-03840-ZZ3	KNOB-TUNING
14	MJAF-03800-ZZ3	KNOB-INPUT
15	MJAF-02630-001	BOTTOM-MOLD
17	DECD-00110-00F	MECHANISM-CD
18	PCSU-01160-21B	PCB-CD
20	PCSU-01150-21B	PCB-TUNER
23	MPAC-02641-ZZ1	COVER-TOP

ABBREVIATIONS (TUNER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	MIcro-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	MultipleX
ANT	ANTenna	MW	Medium Wave(frequency)
BATT	BATTery	NC	No Connection
BLK	BLocK	NFB	Negative Feed Back
BUFF	BUFFer	OSC	OSCillator
COMP	COMParator	PCB	Printed Circuit Board
DET	DETect(DETctor)	PLL	Phase Locked Loop
FLD	FLuorescent Display	Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	High	RF	Radio Frequency
HPF	High Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGnal
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	SWitch : Short Wave(frequency)
Lch	Left channel	THD	Total Harmonic Distortion
LED	Light Emiting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Oscillator
LW	Long Wave(Frequency)	VR	Variable Resistor
		X'TAL	Crystal

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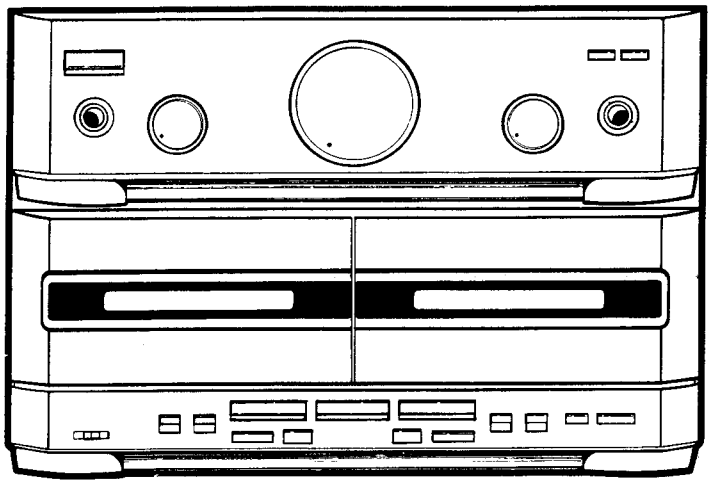
ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Mortor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M_2FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2(Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-1	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	Exclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R, R_1, R_2, etc	Data for Right Channel
F	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H & V (Parity)	Horizonal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S & H	Sample & Hold
KB	Kilo Bits	S/N	Signal to Noise Ratio
L, L^1, L^2, etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYSCON	SYStem CONtrol
LSB	Least Significant Bit		



MINI COMPONENT SYSTEM

AC-MX470A

SPECIFICATIONS

[AMPLIFIER Section]

Power output	35w+35w(6 ohm, 1KHz, 10% THD, EIAJ)
	28w+28W(6 ohm, 1KHz, 1% THD, DIN)
Total harmonic distortion	0.05%(-10dB for RMS)
Input sensitivity	
Phono	5mV/47k ohms
VCR	400mV/47k ohms
S/N ratio	
Phono	55dB
VCR	70dB
Channel seperation	55dB

[Deck section]

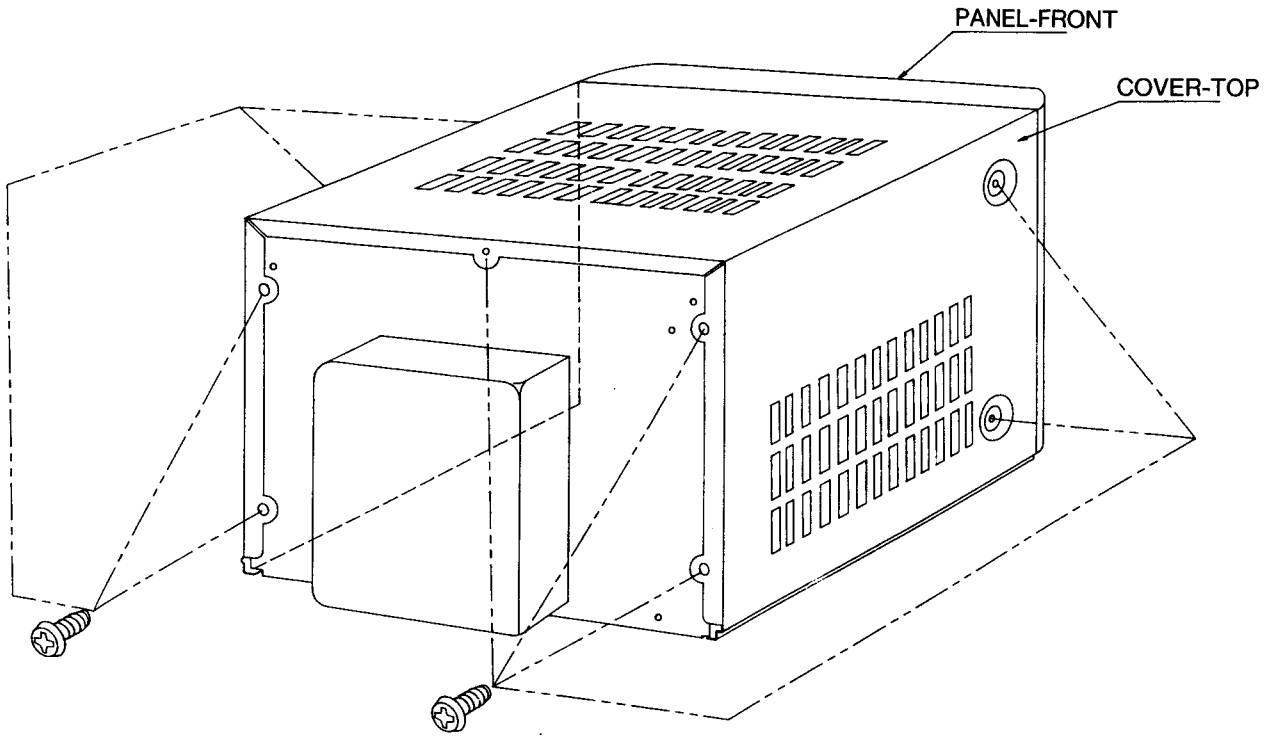
Track system	4 track, 2 channel system
Frequency response	100-12,500Hz ± 3dB(Normal tape)
	100-14,000Hz ± 3dB(CrO_2 tape)
Wow & Flutter	0.2% (WRMS)
S/N ratio (CCIR/ARM)	62dB(DOLBY ON, CrO_2 tape)
	52dB(DOLBY OFF, Normal Tape)
Total harmonic distortion	1.0%(Normal tape, at 400Hz)
Channel seperation	35dB

[General]

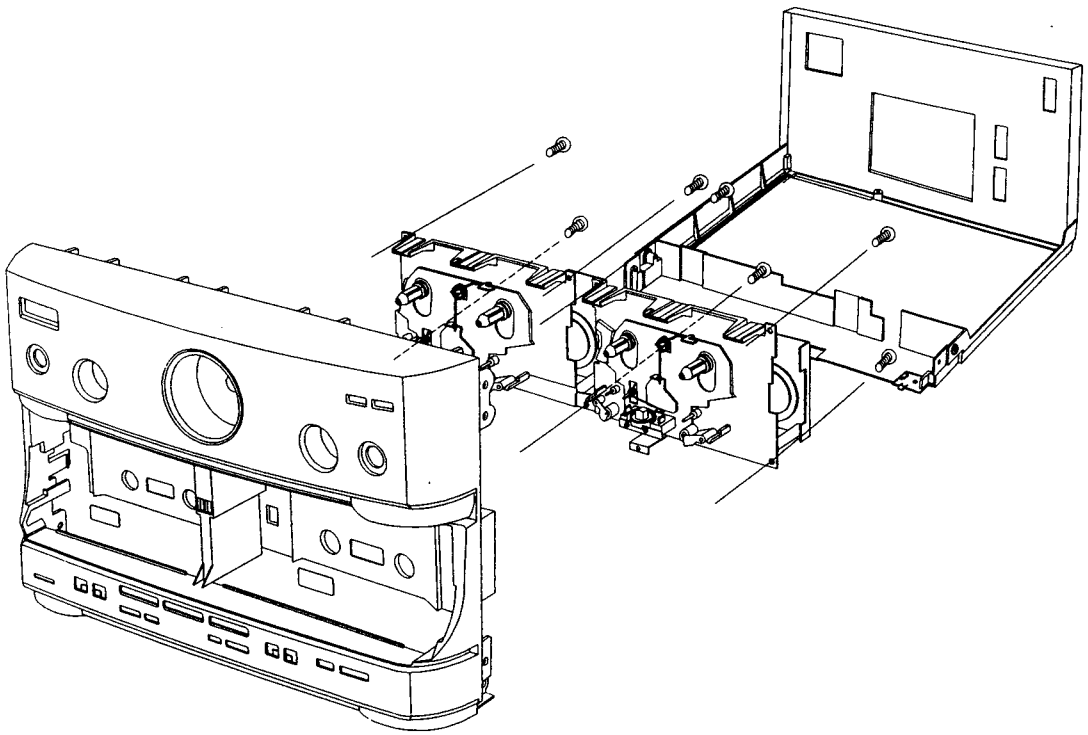
Power requirement	
E/V	AC 230V/50Hz
B/S	AC 240V/50Hz
$U_5/U_8/Y_1/Y_2$	AC 110/120/220/240V, 50/60Hz
$Y_3/Y_4/Y_7$	AC 110/127/220/240V, 50/60Hz
Demension	270(W)×194(H)×260(D)mm
Weight	7.5Kg
Power consumption	114W(E/V/S/B/$Y_3/Y_4/Y_7$)
	171W($Y_1/Y_2/U_5/U_8$)

* For improvement purposes, specifications and design are subject to change without notice.

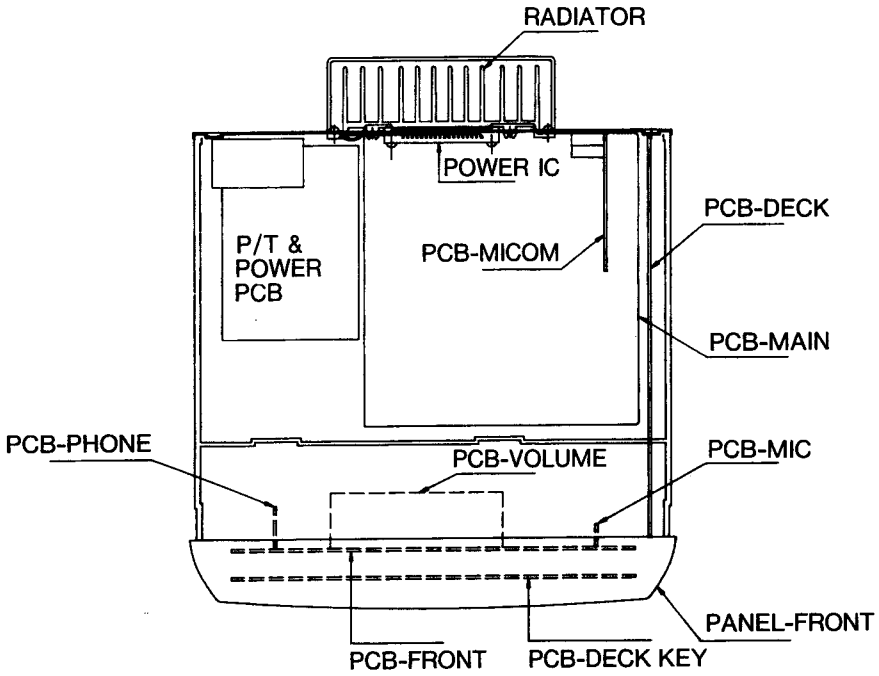
1. REMOVAL OF COVER-TOP



2. REMOVAL OF CASSETTE DECK MECHA



II. PRINCIPAL PARTS LOCATION



III. REPLACEMENT OF PRINCIPAL MECHANICAL PARTS

3-1. REPLACEMENT OF THE PINCH ROLLER BLOCK

1) Pull the PINCH ROLLER BLOCK upward(⬆) while releasing the PINCH ROLLER RETAINING HOOK.
2) Reassemble in the reverse order.

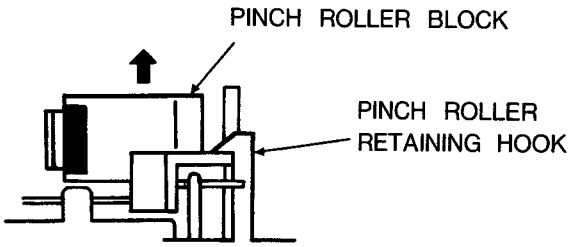


Fig. 3-1

3-2. REPLACEMENT OF THE PB HEAD (TAPE I)

1) Remove the two HEAD RETAINING Ⓐ SCREWS.
2) Pull out the HEAD and disconnect all the lead wires with a soldering iron, then replace the PB HEAD.
3) Reassemble in the reverse order. After replacement, head azimuth and PB level adjustment must be performed.

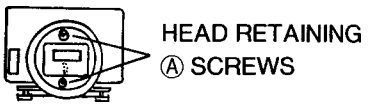


Fig. 3-2

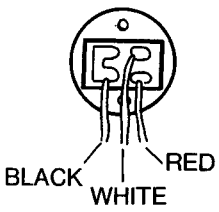


Fig. 3-3

3-3. REPLACEMENT OF THE REC/PB HEAD (TAPE II)

1) Remove the two HEAD RETAINING Ⓐ SCREWS.
2) Pull out the HEAD and disconnect all lead wires with a soldering iron, then replace the REC/PB HEAD.
3) Reassemble in the reverse order, After replacement, head azimuth, PB level BIAS current and REC level adjustments must be performed.

Fig. 3-4

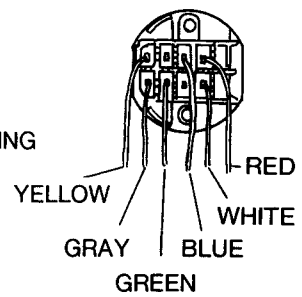


Fig. 3-5

3-4. REPLACEMENT OF THE CAPSTAN MOTOR

1) Disconnect the lead wire of the CAPSTAN MOTOR with a soldering iron.
2) Remove the CAPSTAN MOTOR RETAINING Ⓑ SCREWS then replace the CAPSTAN MOTOR.
3) Reassemble in the reverse order and set the DRIVE BELT. After replacement, tape speed adjustment must be performed.

(MECHANISM-B)

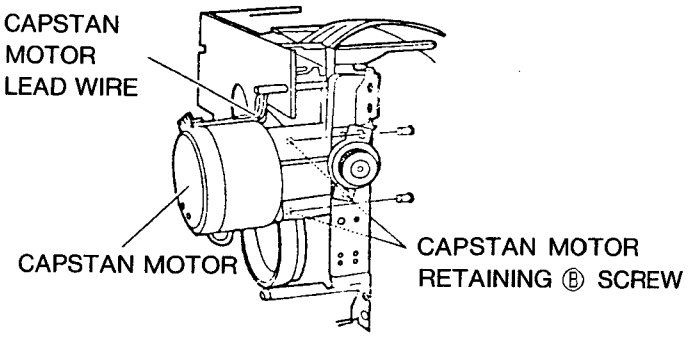


Fig. 3-6

3-5. REPLACEMENT OF THE DRIVE BELT

1) Remove the two MOTOR PCB RETAINING Ⓒ and Ⓓ SCREWS and separate the MOTOR PCB from the MECHA BLK. Replace the DRIVE BELT.
2) Reassemble in the reverse order. After replacement confirm the tape speed and if the result is not satisfactory adjust the tape speed.

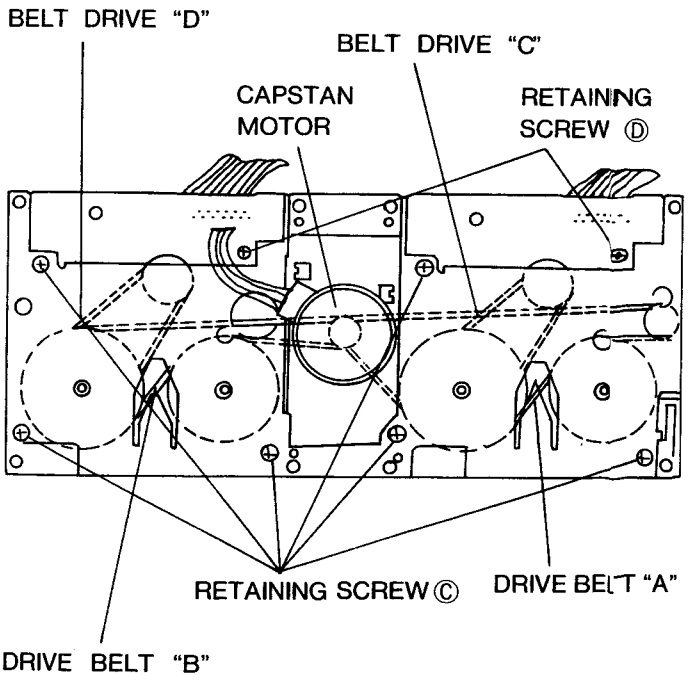


Fig. 3-7

ADJUSTMENT OF THE PB HEAD AZIMUTH ALIGNMENT (TAPE I)

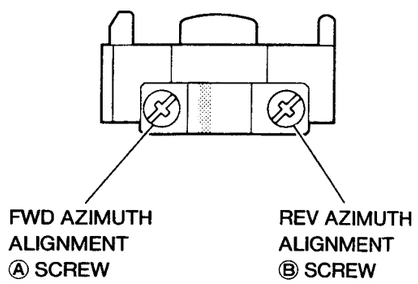


fig. 4-1

1) Connect an AC milli-voltmeter to the TEST POINT TP301 refer to the illustration on page(28) and connect an oscilloscope's input CH-1 and CH-2 to the output of the AC milli-voltmeters.
2) Play back the 10kHz(−15dB), HEAD AZIMUTH ALIGNMENT TEST TAPE(MTT-357G) then adjust the PB HEAD AZIMUTH ALIGNMENTⒶ(FWD PLAY) andⒷ(REV PLAY) SCREW respectively so that the reading on the AC milli-voltmeters are at maximum and waveforms on the oscilloscope are in the same phase, in both FWD and REV directions.

ADJUSTMENT OF THE REC/PB HEAD AZIMUTH ALIGNMENT (TAPE II)

1) Connect an AC milli-voltmeter to the TEST POINT TP301 refer to the illustration on page(28) and connect the oscilloscope's input CH-1 and CH-2 to the output of the AC milli-voltmeters.
2) Play back the 10kHz(−15dB), HEAD AZIMUTH ALIGNMENT TEST TAPE(MTT-357G) then adjust the REC/PB HEAD AZIMUTH ALIGNMENTⒶ(FWD PLAY) andⒷ(REV PLAY) SCREW respectively so that the reading on the AC milli-voltmeters are at maximum and waveforms on the oscilloscope are in the same phase in both FWD and REV directions.

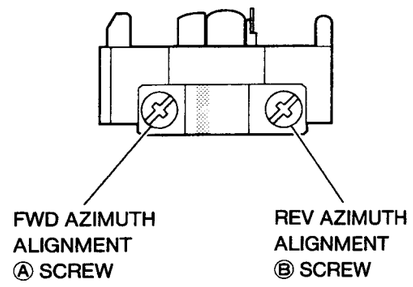


fig. 4-2

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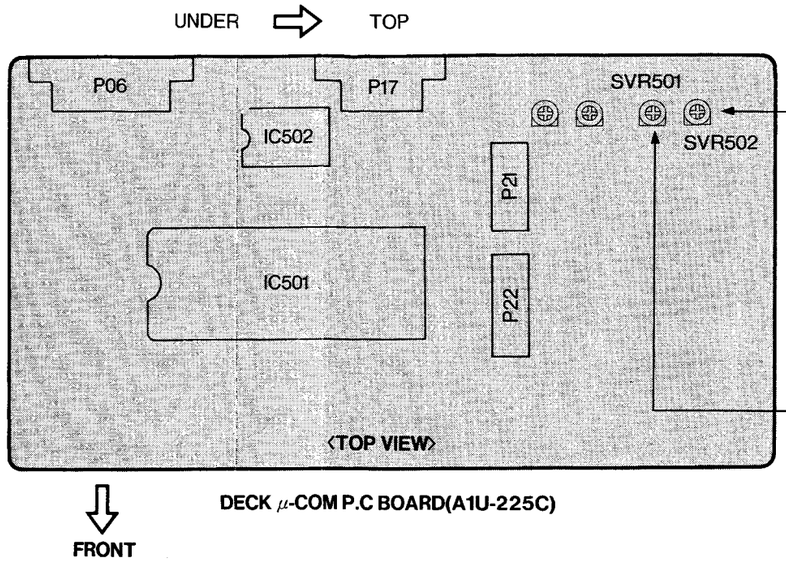
CASSETTE DECK ELECTRICAL ADJUSTMENT

[PRECAUTIONS BEFORE ADJUSTMENT]

1. Before adjustment, clean and de-magnetize the heads and tape guides.
2. Set the Dolby NR switch off.
3. Use the following recording test tapes.
   NORMAL position:TDK AC-224
   CrO_2 position:TDK AC-513
4. LINE OUT = TP301

STEP	ADJUSTMENT
	1. TEST TAPE/INPUT SIGNAL
	2. MODE
	3. CHECK POINT, ADJUSTMENT PART
	4. REMARKS(●) and RESULT(＊)

Adjustment Part　　Test Point



DECK μ-COM P.C BOARD(A1U-225C)

1 TAPE I HIGH(×2) SPEED

1. 3,000Hz test tape(MTT-111DN)
2. TAPE I PLAY, TAPE II REC, (×2 Dubbing START button)
3. LINE OUT, SVR502
4. ●Connect a frequency counter to LINE OUT
   ＊6,000±20Hz

2 TAPE I NORMAL(×1) SPEED

1. 3,000Hz test tape(MTT-111DN)
2. PLAY
3. LINE OUT, SVR501
4. ●Connect a frequency counter to LINE OUT.
   ＊3,000±10Hz

8 NORMAL POSITION BIAS

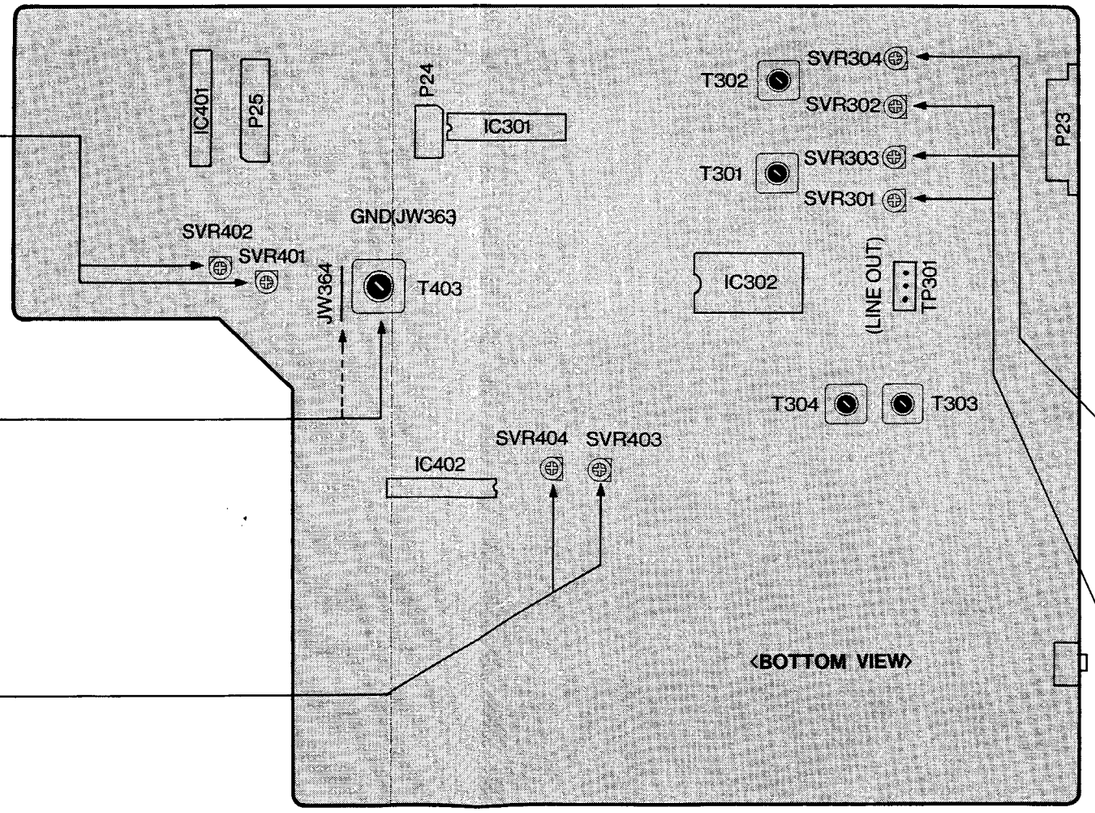
1. 1KHz and 10KHz, −26dBs(LINE OUT) NORMAL recording test tape(AC-224)
2. REC→PLAY
3. LINE OUT, SVR402(L), SVR401(R)
4. ●Connect an AC milli-voltmeter to LINE OUT.
   ＊Playback levels of 1KHz and 10KHz are equal or within ± 1.0 dB

6 BIAS OSC FREQUENCY

1. No signal input, CrO_2 recording test tape. (AC-513)
2. REC
3. JW364, T403
4. ●Connect a frequency counter between JW364 Signal and GND.
   ＊100±5KHz

7 RECORDING LEVEL

1. NORMAL tape(AC-224), AUX, 1KHz input, −6dBs(LINE OUT)
2. REC→PLAY
3. LINE OUT, SVR403(L-ch)/SVR404(R-ch)
4. ●Connect an AC milli-voltmeter to LINE OUT.
   ＊−6dBs(±1dB)



DECK MAIN P.C BOARD(A1U-225B)

3 HEAD AZIMUTH ALIGNMENT (TAPE I & II)

1. 10KHz-15VU test tape (MTT-357G)
2. PLAY
3. LINE OUT, HEAD AZIMUTH ALIGNMENT SCREW (refer to the page 27)
4. ●Connect an AC milli-voltmeter to LINE OUT.
   ＊Maximum output level.

4 TAPE I PB LEVEL

1. 400Hz test tape (MTT-150)
2. PLAY
3. LINE OUT, SVR303(L-ch), SVR304(R-ch).
4. ●Connect an AC milli-voltmeter to LINE OUT.
   ＊ 580mV (−2.5 dBs)

5 TAPE II PB LEVEL

1. 400Hz test tape (MTT-150)
2. PLAY
3. LINE OUT, SVR301(L-ch), SVR302(R-ch).
4. ●Connect an AC milli-voltmeter to LINE OUT.
   ＊ 580mV (−2.5 dBs)

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ATTENTION

1. When placing an order for parts, be sure to list Part No, Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

NOTE

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.

WARNING

⚠ (*) INDICATED SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

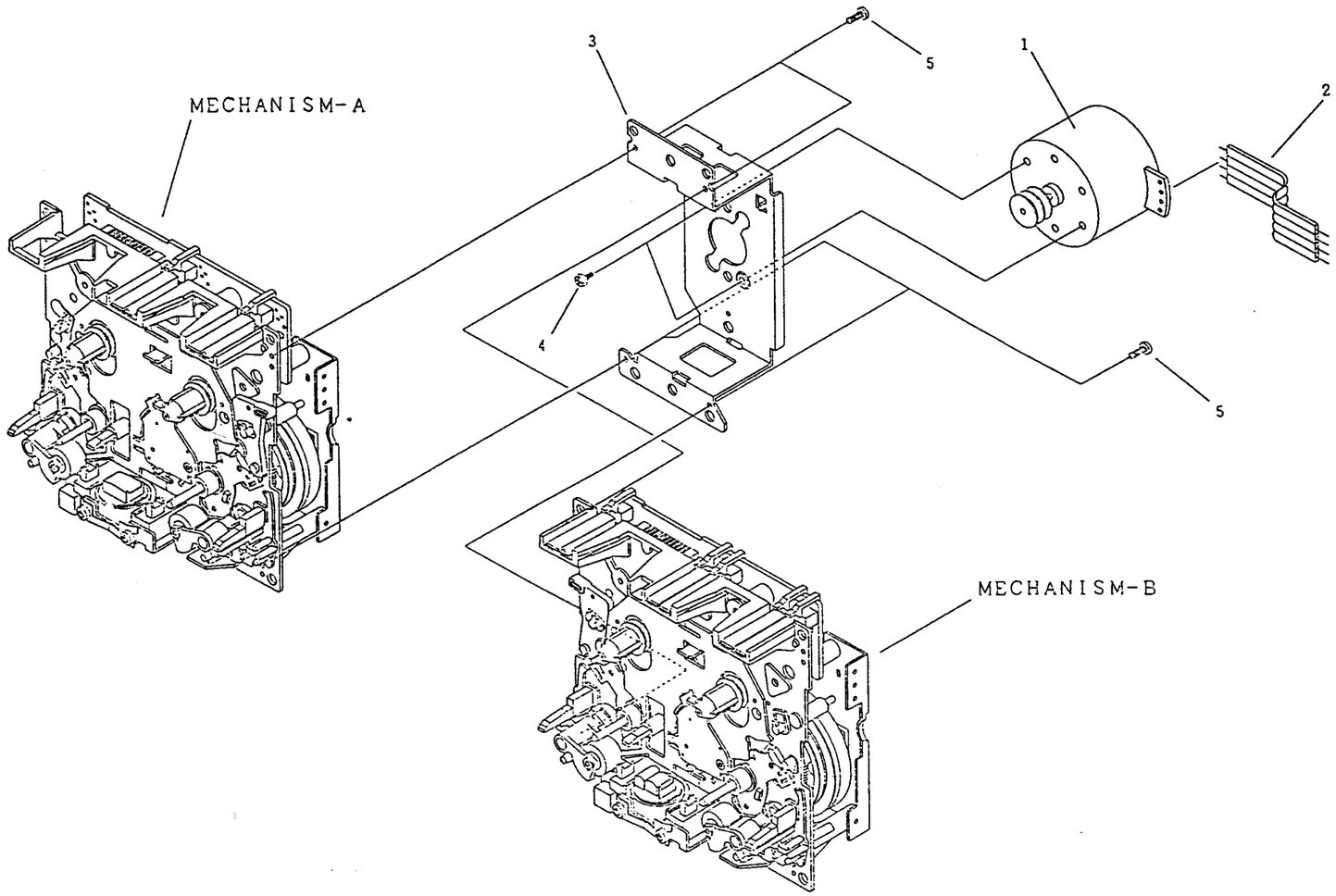
AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service

Ref. No.	Part No.	Description
1	*ACAC-00053-000	CORD-AC [U, Y_1, Y_2] KP-700A
2	*ACAC-00063-000	CORD-AC [E, V, Y_3, Y_4, Y_7] KKP-419C
3	*ACAC-00083-000	CORD-AC [S] KKP-560
4	*ACAC-00093-000	CORD-AC [B] CW3102
5	*BTAL-00010-025	FILTER-AC LINE FKOB160MH02 2A
6	*CACS-U102K-129	CAPACITOR AC 400V DE7090B102K VA1-KC
7	*DDMR-00210-T11	D-RECTIFIER 1N5402S (200V 3A)
8	DDTR-00020-T10	D-RECTIFIER 1N4002 (100V 1A)
9	DDTS-00030-SO0	D-SI LICON 1S2471
10	DDTZ-G056B-SO0	D-ZENER MTZ5.6B
11	DECA-00340-00M	MECHA CASSETTE CWA414RR
12	ESRY-00120-12U	RELAY JS1-12V/AJS1311
13	*FGFB-S5002-337	FUSE GLASS T250V/5A
14	ICCM-20540-SQ0	IC GD74LS05
15	ICDG-00370-S20	IC μPD1330HA
16	ICDG-00560-SB0	IC BA6208
17	*ICHP-00070-S10	IC STK4142 II 25W×2
18	ICLN-00540-SO0	IC BA3416BL
19	ICLN-00681-SA0	IC HA12136A
20	ICMP-00101-S20	IC μPD75108CW-W51
21	ICOP-00130-SE0	IC KA4558S
22	ICOP-00131-SE0	IC KA4558C
23	ICRG-00040-SE0	IC KA7805C
24	*ICRG-00190-SE0	IC KA7912C
25	*ICRG-00217-SE0	IC KA7812C
26	*ICRG-00300-SE0	IC MC79L24ACZ
27	KIBK-00050-E40	COIL ABK005 2.2μH
28	KIRA-00090-E60	COIL ARA-009A 100KHz
29	KIRK-00150-E60	COIL ARK-015A 8.2mH
30	KIRO-00140-E60	COIL ARO014 85KHz
31	KIRP-00050-E60	COIL ARP005A 100KHz
32	KNCW-00380-BS0	CONNECTOR CFG1111-0101 1.5mm 11P
33	KNCW-00380-FS0	CONNECTOR CFG1115-0101 1.5mm 15P
34	KNCW-00380-9S0	CONNECTOR CFG1109-0101 1.5mm 9P
35	KNCW-00670-BT9	CONNECTOR 52004-1110 11P 1.5mm-WHT
36	KNCW-00670-DT9	CONNECTOR 52004-1310 13P 1.5mm-WHT
37	KTRE-00170-042	RESONATOR CST4.19MGW 4.19MHz
38	*PTAJ-01040-H4V	TRANSFORMER-POWER A74-10447-V [Y_3, Y_4, Y_7]
39	*PTAJ-01040-Y4V	TRANSFORMER-POWER [E, V] A74-104Y-V
40	*PTAJ-01040-Z4B	TRANSFORMER-POWER [B, S] A74-104Z-B
41	*PTAJ-01040-J40	TRANSFORMER-POWER A74-104RQ-0 [U, Y_1, Y_2]
42	RCMM-JR22K-400	R-CEMENT 2W 0.22ohm 10%
43	*RFUE-F100J-010	R-FUSIBLE 1/4W 10ohm ERQ14AJ100E
44	*RFUE-F470J-010	R-FUSIBLE 1/4W 47ohm ERQ14AJ470E
45	*RFUE-F560J-010	R-FUSIBLE 1/4W 56ohm ERQ14AJ560E
46	*RFUM-G1R0J-130	R-FUSIBLE 1/2W 1ohm 5%
47	RMOE-H4R7J-020	R-METAL OXIDE ERG(×) 1SJ4R7E 1W 4.7ohm
48	SWPU-00301-038	SWITCH-PUSH 00220014
49	SWSL-00128-012	SWITCH-SLIDE 00120050
50	SWSL-00504-057	SWITCH-SLIDE 00220867
51	SWTA-00220-060	SWITCH-TACT SKHV10910
52	*SWVS-00100-S50	SWITCH-VOLTAGE SEL JUH1420-0103 [U, Y_1, Y_2]
53	*SWVS-00101-S50	SWITCH-VOLTAGE SEL JUH1420-0104 [Y_3, Y_4, Y_7]
54	TESP-00010-08P	TERMINAL SPEAKER AU8-2021
55	TRSA-0023Y-SD0	TR KTA1658-Y
56	TRTA-0008G-SD0	TR KTA1266-GR
57	TRTA-0012Y-SD0	TR KTA1273-Y
58	TRTA-0042E-SOS	TR DTA124E-S
59	TRTA-0044W-SOS	TR DTA144W-S
60	TRTC-0008Y-SD0	TR KTC2120-Y
61	TRTC-0016Y-SD0	TR KTC3198-Y
62	TRTC-0039Y-SD0	TR KTC3205-Y
63	TRTC-0060E-SOS	TR DTC144E-S
64	TRTC-0061E-SOS	TR DTC124E-S
65	TRTC-0094Y-SD0	TR KTC3199-Y
66	TRTD-00200-SD0	TR KTD-1302
67	VFEB-A001B-103	R-SEMI FIXED EVN DXA A03 B14 10kohm
68	VFEB-A001B-104	R-SEMI FIXED EVN DXA A03 B15 100kohm
69	VFEB-A001B-223	R-SEMI FIXED EVN DXA A03 BE4 22kohm
70	VFEB-A001B-472	R-SEMI FIXED EVN DXA A03 BQ3 4.7kohm
71	VRAE-D018C-203	VR-ROTARY RK12K1130 0A2 23C-20KC
72	VRAE-D019W-104	VR-ROTARY RK12K1170 0A2 14W-100KW
73	VWBD-F008B-104	VR-W/MOTOR RK16Y12MC 2R2 14B-100KB×2



2. MECHA BLK

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

Ref. No.	Part No.	Description
1	ADCA-00340-101	ASS'Y MOTOR 22-093-4139
A	ADCA-00340-10A	ASS'Y MECHANISM-A
B	ADCA-00340-10B	ASS'Y MECHANISM-B

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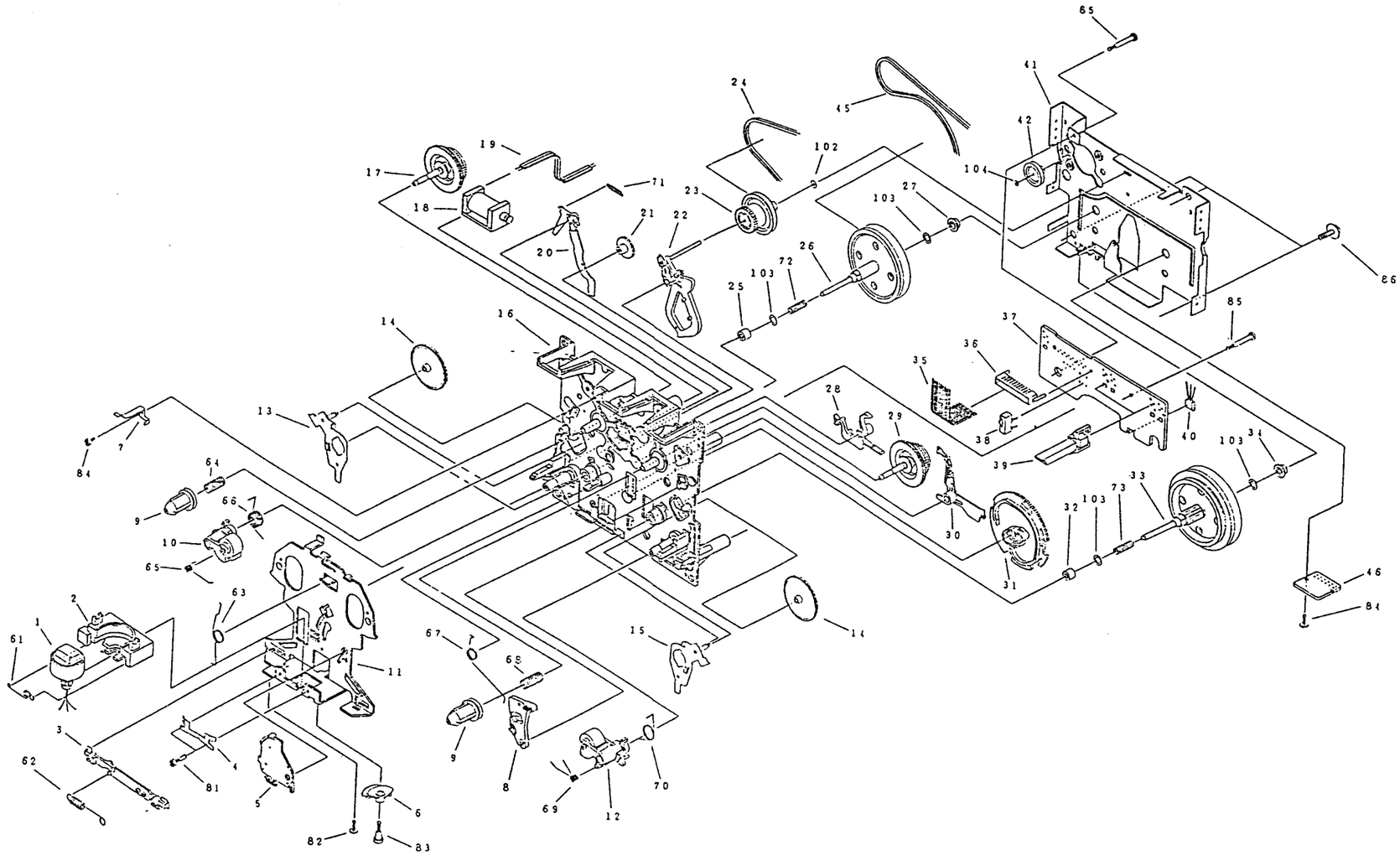
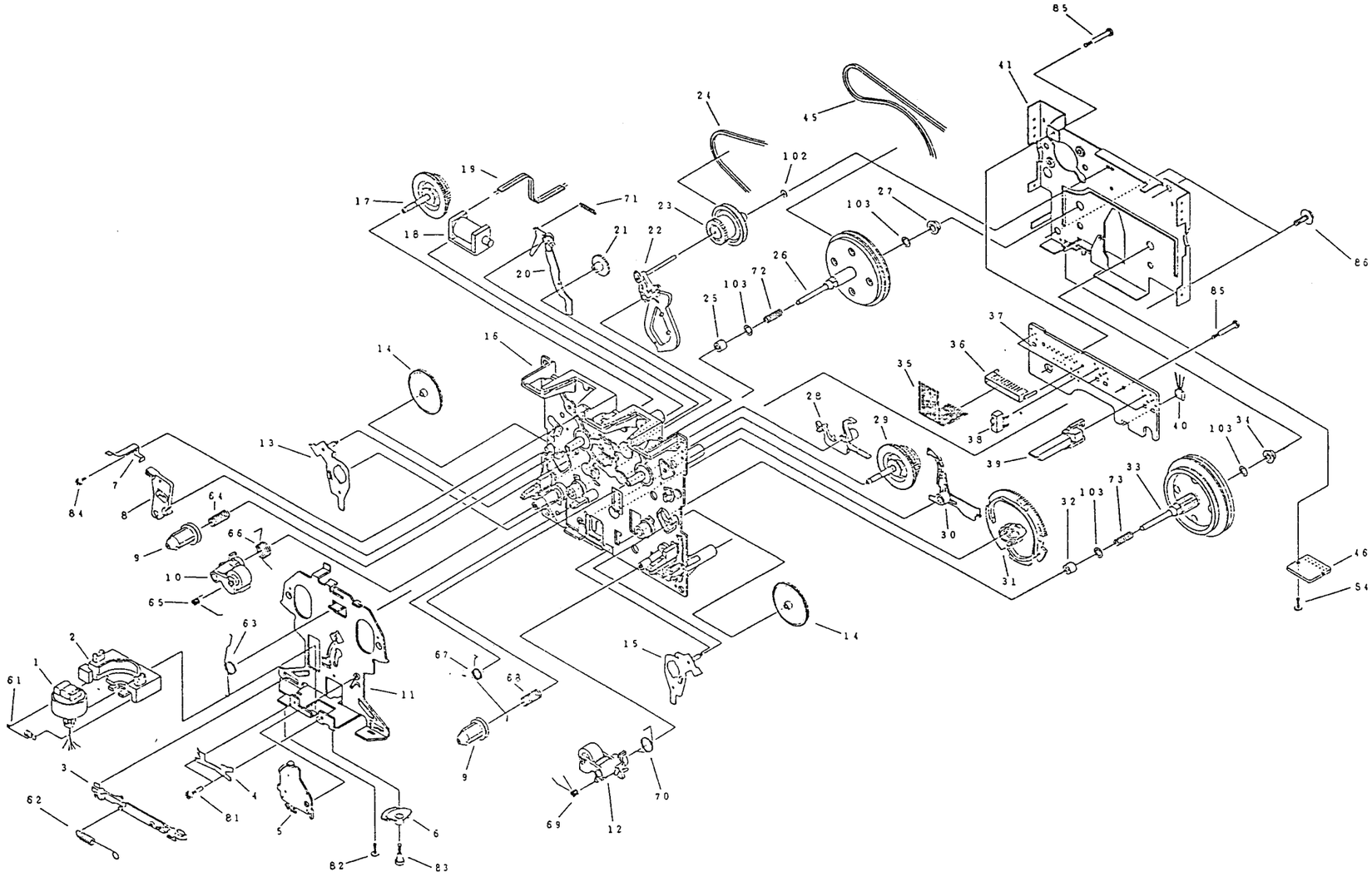


2-2 DECK MECHA-A

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

Ref. No.	Part No.	Description
1	ADCA-00340-201	ASS'Y HOLDER HEAD 22-093-4067
2	ADCA-00340-202	FLAME HEAD 22-219-1026
3	ADCA-00340-203	LEVER HEAD 22-259-2012
4	ADCA-00340-204	SPRING AZIMUTH 16-160-4032
5	ADCA-00340-205	ASS'Y ARM ASSIST 22-093-4053
6	ADCA-00340-206	GEAR ARM HEAD 22-239-4020
7	ADCA-00340-207	SPRING CASSETTE 22-160-4017
8	ADCA-00340-208	EJECT LOCK 22-261-4043
9	ADCA-00340-209	CAP REEL 22-222-4041
10	ADCA-00340-210	ASS'Y PINCH ARM L 22-093-4149
12	ADCA-00340-212	ASS'Y PINCH ARM R 22-093-4150
13	ADCA-00340-213	ARM PLAY L 22-239-3257
14	ADCA-00340-214	GEAR PLAY 22-222-4282
15	ADCA-00340-215	ARM PLAY R 22-239-3256
17	ADCA-00340-217	ASS'Y SUB REEL L 22-093-3071
18	ADCA-00340-218	SOLENOID 07-W021Cor22-093-4419
20	ADCA-00340-220	ARM RVS 22-239-3010
21	ADCA-00340-221	GEAR FF 22-222-4048
22	ADCA-00340-222	ASS'Y ARM FR 22-093-4061
23	ADCA-00340-223	ASS'Y PULLEY FR 22-093-3060
24	ADCA-00340-224	BELT FR 02-083-4059
26	ADCA-00340-226	ASS'Y FLYWHEEL L 22-093-3051
28	ADCA-00340-228	ARM BRAKE 22-239-3028
29	ADCA-00340-229	ASS'Y SUB REEL R 22-093-4151
30	ADCA-00340-230	ARM TRIGER 22-268-3008
31	ADCA-00340-231	GEAR CAM 22-221-2090
32	ADCA-00340-232	METAL PBE 16449
33	ADCA-00340-233	ASS'Y FLYWHEEL R 22-093-3050
37	ADCA-00340-237	P.C BOARD 22-070-3018
38	ADCA-00340-238	SWITCH MODE 04-SW150or04-MPU10101MMB0
39	ADCA-00340-239	SWITCH (LEAF) 04-MTS10041MVJ1
40	ADCA-00340-240	HALL IC 00-DN6851Aor00-LB9051A
42	ADCA-00340-242	PULLEY 17-223-4639
45	ADCA-00340-245	BELT MAIN 02-083-4077
61	ADCA-00340-261	SPRING 01-080-4251
62	ADCA-00340-262	01-080-4249
63	ADCA-00340-263	01-082-4250
64	ADCA-00340-264	01-081-4257
65	ADCA-00340-265	01-082-4253
66	ADCA-00340-266	01-082-4262
67	ADCA-00340-267	01-082-4252
68	ADCA-00340-268	01-081-4258
69	ADCA-00340-269	01-082-4254
70	ADCA-00340-270	01-082-4261
71	ADCA-00340-271	01-082-4260
72	ADCA-00340-272	01-081-4073
73	ADCA-00340-273	01-081-4309
81	ADCA-00340-281	SCREW 03-300-4056
82	ADCA-00340-282	PGSU20A2005
83	ADCA-00340-283	03-300-4043
103	ADCA-00340-2A3	PGWP26×042013



2-3 DECK MECHA-B

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

Ref. No.	Part No.	Description
1	ADCA-00340-301	ASS'Y HOLDER HEAD 22-093-4069
2	ADCA-00340-302	FLAME HEAD 22-219-1026
3	ADCA-00340-303	LEVER HEAD 22-259-2012
4	ADCA-00340-304	SPRING AZIMUTH 16-160-4032
5	ADCA-00340-305	ASS'Y ARM ASSIST 22-093-4053
6	ADCA-00340-306	GEAR ARM HEAD 22-239-4020
7	ADCA-00340-307	SPRING CASSETTE 22-160-4017
8	ADCA-00340-308	EJECT LOCK 22-261-4043
9	ADCA-00340-309	CAP REEL 22-222-4041
10	ADCA-00340-310	ASS'Y PINCH ARM L 22-093-4149
12	ADCA-00340-312	ASS'Y PINCH ARM R 22-093-4150
13	ADCA-00340-313	ARM PLAY L 22-239-3257
14	ADCA-00340-314	GEAR PLAY 22-222-4282
15	ADCA-00340-315	ARM PLAY R 22-239-3256
17	ADCA-00340-317	ASS'Y SUB REEL L 22-093-3071
18	ADCA-00340-318	SOLENOID 07-W021Cor22-093-4419
20	ADCA-00340-320	ARM RVS 22-239-3010
21	ADCA-00340-321	GEAR FF 22-222-4048
22	ADCA-00340-322	ASS'Y ARM FR 22-093-4061
23	ADCA-00340-323	ASS'Y PULLEY FR 22-093-3060
24	ADCA-00340-324	BELT FR 02-083-4059
26	ADCA-00340-326	ASS'Y FLYWHEEL L2 22-093-3142
28	ADCA-00340-328	ARM BRAKE 22-239-3028
29	ADCA-00340-329	ASS'Y SUB REEL R 22-093-4151
30	ADCA-00340-330	ARM TR IGER 22-268-3008
31	ADCA-00340-331	GEAR CAM 22-221-2090
33	ADCA-00340-333	ASS'Y FLYWHEEL R2 22-093-3142
37	ADCA-00340-337	P.C BOARD 22-070-3018
38	ADCA-00340-338	SWITCH MODE 04-SW150or04-MPU10101MMB0
39	ADCA-00340-339	SWITCH (LEAF) 04-MTS10041MVJ1
40	ADCA-00340-340	HALL IC 00-DN6851Aor00-LB9051A
45	ADCA-00340-345	BELT MAIN 02-083-4076
61	ADCA-00340-361	SPRING 01-080-4251
62	ADCA-00340-362	01-080-4249
63	ADCA-00340-363	01-082-4250
64	ADCA-00340-364	01-081-4257
65	ADCA-00340-365	01-082-4253
67	ADCA-00340-367	01-082-4252
68	ADCA-00340-368	01-081-4258
69	ADCA-00340-369	01-082-4254
70	ADCA-00340-370	01-082-4261
71	ADCA-00340-371	SPRING 01-082-4260
72	ADCA-00340-372	01-081-4073
73	ADCA-00340-373	01-081-4309
81	ADCA-00340-381	SCREW 03-300-4056
82	ADCA-00340-382	PGSU20A2005
83	ADCA-00340-383	03-300-4043
103	ADCA-00340-3A3	PGWP26×042013

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	PCSU-02250-11B	PCB-SINGLE(MAIN/DECK) A1U-225 330×247×1.6t
2	PCSU-02260-11B	PCB-SINGLE(FRONT) A1U-226 247×263×1.6t
3	PCSG-01830-44B	PCB-SINGLE(POWER TRANS) A4G-183 [E, V, S, B]
	PCSG-01831-44B	PCB-SINGLE(POWER TRANS) A4G-183-1 [U, Y]

4. MAIN(POWER) P.C BOARD(A1U-225A)

Ref. No.	Part No.	Description
D108	*DDMR-00210-T11	D-RECTIFIER 1N5402S (200V 3A)
D109		
D110		
D111		
D112	DDTR-00020-T10	D-RECTIFIER 1N4002(100V 1A)
D113		
D114		
D115		
D116		
D117		
D119		
D120		
D121		
D122		
D123		
D124		
D125		
D126		
D127		
D102	DDTS-00030-SO0	D-SI LICON 1S2471
D103		
D104		
D105		
D106		
D107		
ZD101	DDTZ-G056B-SO0	D-ZENER MTZ5.6B 5.45-5.73
ZD102	DDTZ-G091B-SO0	D-ZENER MTZ9.1B 9.1V
F104	*FGFB-S5002-337	FUSE GLASS 250V 5A 5×20
F105		
IC101	*ICHP-00070-S10	IC HYBRID STK4142II
IC106	*ICRG-00040-SE0	IC REGULATOR KA7805C
IC103	*ICRG-00190-SE0	IC REGULATOR KA7912C 12V
IC102	*ICRG-00217-SE0	IC REGULATOR KA7812C 12V
IC104		
IC105	*ICRG-00300-SE0	IC REGULATOR MC79L24ACZ
L101	KIBK-00050-E40	COIL ABK005 2.2μH
L102		
R136	RCMM-JR22K-400	R-CEMENT 2W 0.22ohm 10%
R137		
FR105	*RFUE-F100J-010	R-FUSIBLE 1/4W 10ohm ERQ14AJ100E
FR110		
FR101	*RFUE-F470J-010	R-FUSIBLE 1/4W 47ohm ERQ14AJ470E
FR102	*RFUE-F560J-010	R-FUSIBLE 1/4W 56ohm ERQ14AJ560E
FR103	*RFUM-G1R0J-130	R-FUSIBLE 1/2W 1ohm 5%
FR104		
FR108		
FR109		
FR111		
FR112		
R138	RMOE-H4R7J-020	R-METAL OXIDE ERG(X)1SJ4R7E 1W 4.7ohm
R139		
R140		
R141		
Q120	TRSA-0023Y-SD0	TR KTA1658-Y
Q108	TRTA-0008G-SD0	TR KTA1266-GR
Q109		
Q122	TRTA-0012Y-SD0	TR KTA1273-Y
Q124		
Q125		
Q103	TRTA-0044W-SOS	TR DTA144W-S
Q104		
Q105	TRTC-0060E-SOS	TR DTC144E-S
Q106		
Q121	TRTC-0061E-SOS	TR DTC124E-S
Q123		
Q126		
Q101	TRTD-00200-SD0	TR KTD-1302
Q102		
Q107		

5. DECK MAIN P.C BOARD(A1U-225B)

Ref. No.	Part No.	Description
D301	DDTS-00030-SO0	DIODE-SI 1S2471
D302		
D303		
D304		
D501		
IC401	ICDG-00370-S20	IC μPD1330HA
IC301	ICLN-00540-SO0	IC BA3416BL
IC302	ICLN-00681-SA0	IC HA12136A
IC402	ICOP-00130-SE0	IC KA4558S
T401	KIRA-00090-E60	COIL ARA-009A 100KHz
T402		
L401	KIRK-00150-E60	COIL ARK-015A 8.2mH
L402		
T403	KIRO-00140-E60	COIL ARO014 85KHz
T301	KIRP-00050-E60	COIL ARP005A 100KHz
T302		
T303		
T304		
P23	KNCW-00380-BS0	CONNECTOR CFG1111-0101 1.5mm 11P
SW401	SWSL-00128-012	SWITCH-SLIDE 00120050
Q320	TRTA-0042E-SOS	TR DTA124E-S
Q322		
Q409		
Q414		
Q416		
Q406	TRTC-0008Y-SD0	TR KTC2120-Y
Q405	TRTC-0039Y-SD0	TR KTC3205-Y
Q305	TRTC-0061E-SOS	TR DTC124E-S
Q306		
Q307		
Q308		
Q319		
Q321		
Q323		
Q324		
Q325		
Q326		
Q401		
Q402		
Q403		
Q404		
Q407		
Q408		
Q412		
Q413		
Q415		

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Q417		
Q418		
Q419		
Q420		
Q421		
Q422		
Q301	TRTC-0094Y-SD0	TR KTC3199-Y
Q302		
Q303		
Q304		
Q313		
Q314		
Q315		
Q316		
Q317		
Q318		
Q327		
Q328		
Q329		
Q330		
Q101	TRTD-00200-SD0	TR KTD-1302
Q102		
Q107		
Q309		
Q310		
Q311		
Q312		
Q410		
Q411		
SV301	VFEB-A001B-103	R-SEMI FIXED EVN DXA A03 B14 10kohm
SV302		
SV303		
SV304		
SV401	VFEB-A001B-104	R-SEMI FIXED EVN DXA A03 B15 100kohm
SV402		
SV403	VFEB-A001B-223	R-SEMI FIXED EVN DXA A03 BE4 22kohm
SV404		

6. DECK μ-COM P.C BOARD(A1U-225C)

Ref. No.	Part No.	Description
D502	DDTR-00020-T10	D-RECTIFIER 1N4002(100V 1A)
D503		
D504		
D501	DDTS-00030-SO0	D-SI LICON 1S2471
IC502	ICCM-20540-SQ0	IC GD74LS05
IC501	ICMP-00101-S20	IC μPD75108CW-W51
P6	KNCW-00380-FS0	CONNECTOR CFG1115-0101 1.5mm 15P
P17	KNCW-00380-9S0	CONNECTOR CFG1109-0101 1.5mm 9P
P22	KNCW-00670-BT9	CONNECTOR 52004-1110 11P 1.5mm-WHT
P21	KNCW-00670-DT9	CONNECTOR 52004-1310 13P 1.5mm-WHT
X501	KTRE-00170-042	RESONATOR CST4.19MGW 4.19MHz
Q515	TRTA-0008G-SD0	TR KTA1266-GR
Q505	TRTA-0012Y-SD0	TR KTA1273-Y
Q506		
Q507		
Q513		
Q502	TRTA-0042E-SOS	TR DTA124E-S
Q511		
Q501	TRTC-0060E-SOS	TR DTC144E-S
Q503	TRTC-0061E-SOS	T DTC124E-S
Q504		
Q508		
Q512		
Q514		
Q509	TRTC-0094Y-SD0	TR KTC3199-Y
Q510		
SVR501	VFEB-A001B-472	R-SEMI FIXED EVN DXA A03 BQ3 4.7kohm
SVR502		

7. SPEAKER TERMINAL P.C BOARD(A1U-225D)

Ref. No.	Part No.	Description
D101	DDTS-00030-SO0	D-SI LICON 1S2471
RY102	ESRY-00120-12U	RELAY JS1-12V/AJS1311
TE101	TESP-00010-08P	TERMINAL SPEAKER AU8-2021
Q127	TRTC-0016Y-SD0	TR KTC3198-Y

8. FRONT P.C BOARD(A1U-226A)

Ref. No.	Part No.	Description
IC200	ICOP-00131-SE0	IC 8 KA4558C
IC201		
SW201	SWPU-00301-038	SWITCH-PUSH 00220014
SW202		
S201	SWTA-00220-060	SWITCH-TACT SKHV10910
Q201	TRTC-0016Y-SD0	TR KTC3198-Y
Q202		
Q203		
Q204		
Q205		
VR203	VRAE-D018C-203	VR-ROTARY RK12K1130 0A2 23C-20KC
VR201	VRAE-D019W-104	VR-ROTARY RK12K1170 0A2 14W-100KW

9. DECK CONTROL KEY P.C BOARD(A1U-226B)

Ref. No.	Part No.	Description
SW501	SWSL-00504-057	SWITCH-SLIDE 00220867
S502	SWTA-00220-060	SWITCH-TACT SKHV10910
S503		
S504		
S505		
S506		
S507		
S508		
S509		
S510		
S511		
S512		
S513		
S514		

10. MOTOR VOLUME P.C BOARD(A1U-226C)

Ref. No.	Part No.	Description
IC202	ICDG-00560-SB0	IC BA6208
VR202	VWBD-F008B-104	VR-W/MOTOR RK16Y12MC 2R2 14B-100KB×2

11. VOLTAGE SELECTOR P.C BOARD [U, Y] (A4G-183-1)

Ref. No.	Part No.	Description
SW701	SWVS-00100-S5K	SWITCH-VOLTAGE SEL JUH1420-0103 [U, Y_1, Y_2]
	SWVS-00101-S5K	SWITCH-VOLTAGE SEL JUH1420-0104 [Y_3, Y_4, Y_7]

12. PHONES P.C BOARD(A1U-226E)

Ref. No.	Part No.	Description
R157	RMOE-H391J-020	R-METAL OXIDE ERG(X)1SJ391E 1W 390ohm
R158		
JK101	SKPH-00162-66W	SOCKET-PHONE HTJ064-04A

13. MIC JACK P.C BOARD(A1U-226F)

Ref. No.	Part No.	Description
JK201	SKPH-00330-66W	SOCKET-PHONE HTJ064-10I

14. VOLUME LED P.C BOARD(A1U-226G)

Ref. No.	Part No.	Description
LD201	DPLT-00452-YC5	DOT-LED AL-151YC YEL

15. POWER TRANS P.C BOARD(A4G-183)

Ref. No.	Part No.	Description
L101	*BTAL-00010-025	FILTER-AC LINE FKOB160MH02 2A
C701, 702	*CACS-U102K-129	CAPACITOR AC 400V DE7090B102K VA1-KC
PT101	*PTAJ-01040-H4V	TRANSFORMER-POWER [Y_2, Y_4, Y_7] A74-10447-0 110/127/220/240V
PT101	*PTAJ-01040-Y4V	TRANSFORMER-POWER [E,V] A74-104Y-V 230V
PT101	*PTAJ-01040-Z4B	TRANSFORMER-POWER [B, S] A74-104Z-B 240V
PT101	*PTAJ-01040-J40	TRANSFORMER-POWER [U_5, U_8, Y_1 Y_2] A74-104RQ-0 110/120/220/240V

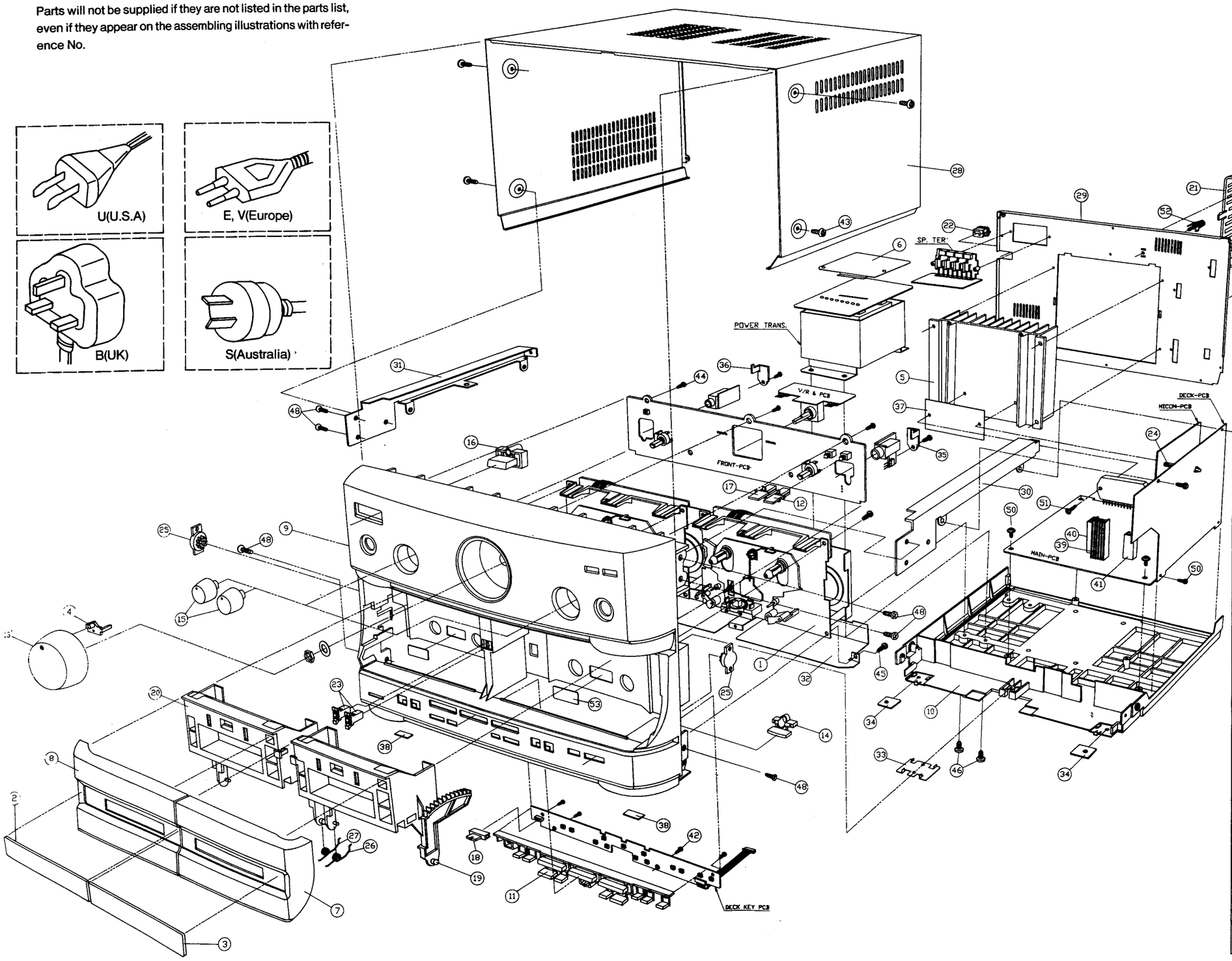
NOTE:
Parts will not be supplied if they are not listed in the parts list even if they appear on the assembling illustrations with reference No.

16. ACCESSARY

Ref. No.	Part No.	Description
1	A2RC-C4000-ZZE	REMOTE CONTROL BOX RC-S115
2	BAMN-AAM00-150	BATTERY MANGANESE R6 1.5V 14.5×50.5
3	YICC-C3000-ZZE	INST-MANUAL

17. FINAL ASSEMBLY

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.



Ref. No.	Part No.	Description
1	DECA-00340-00M	MECHA-CASSETTE
2	MAAF-09640-11Z4	WINDOW-DECK-L
3	MAAF-09640-2Z4	WINDOW-DECK-R
4	MAAF-09900-ZZ4	LENS-INDICATOR
6	MGAG-09320-004	INSULATOR-PCB
7	MJAF-01790-ZZ2	COVER-DECK-R
8	MJAF-01800-ZZ2	COVER-DECK-L
9	MJAF-02620-ZZ1	PANEL-FRONT
11	MJAF-03861-ZZ3	KNOB-OPERATION
12	MJAF-09880-ZZ4	KNOB-SURROUND
13	MJAF-09890-ZZ4	KNOB-VOLUME
14	MJAF-09910-ZZ4	KNOB-REVERSE
15	MJAF-09920-ZZ4	KNOB-BALANCE
16	MJAF-09930-ZZ4	KNOB-POWER
17	MJAF-10020-ZZ4	KNOB-BASS
18	MJAF-10030-ZZ4	KNOB-DOLBY
19	MJAG-00230-002	BODY-DOOR-R
20	MJAG-00240-002	BODY-DOOR-L
21	MJAG-00250-002	COVER-RADIATOR
22	MJAG-00281-003	BUSH-CORD
23	MJAG-00840-003	LATCH-PUSH
25	MJAG-08110-004	DAMPER-GEAR
26	MMAC-11900-004	SPRING-EJECT-R
27	MMAC-11910-004	SPRING-EJECT-L
28	MPAC-02640-ZZ1	COVER-TOP
37	MRAG-07451-004	RUBBER-IC-L

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ABBREVIATIONS (CASSETTE)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	MIN	MINute
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi Plex
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAP M	CAPstan Motor	PB	Play Back
CH	CHannel	OMSS	Ouick Memory Search System
COMP	COMParator	OR	Ouick Reverse
CONT	CONTinuance	R CH	Right CHannel
CRLP	Computer Recording Level Processing	REC	RECord(RECording)
CS	Chip Select	REV	REVerse
D/A	Digital/Analog	ROT	ROTation
DC	Direct Current	REW	REWind
DET	DETector	SEC	SECond
DISCRI	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQualizer	SEPP	Single Ended Push Pull
FF(or F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLuoresent Display	SPECT	SPECTrum
FREQ	FREQuency	STD	STanDard
FWD	ForWarD	SW	SWitch
GND	GrouND	SYSCON	SYStem CONtroi
H	High	TP	Test Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	VOLume
L	Low	VOLT	VOLTage
L CH	Left CHannel	VR	Variable Resistor
LED	Light Emitining Diode	X'TAL	cysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MIcroCOMputer	X2	Dubble speed

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AKAI

ABBREVIATIONS (AMPLIFIER)

ABBREVIATION	EXPLANATION
A	Analog
AC	Alternating Current
AMP	AMPlifier
CD	Compact Disc
COM	COMmon
D	Digital
D/A	Digital to Analog
DAC	Digital to Analog Converter
DAT	Digital Audio Tape recorder
DC	Direct Current
GND	GrouND
L	Left
LED	Light Emitting Diode
MC	Moving Coil
MM	Moving Magnet
PCB	Printed Circuit Board
R	Right
REG	REGulator
REC	RECord
TR	TRansistor
SW	SWitch
V.AMP	Voltage AMPlifier
V.DISC	Video DISC
VR	Variable Resistance
VTR	Video Tape Recorder

AKAI SERVICE MANUAL

AC-MX470

SCHEMATIC DIAGRAMS AND PC BOARD

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- 2. AC-MX470T TUNER & G-EQ 6
- 3. AC-MX470T CD 7
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- 5. AC-MX470A DECK MAIN & CONTROL 9

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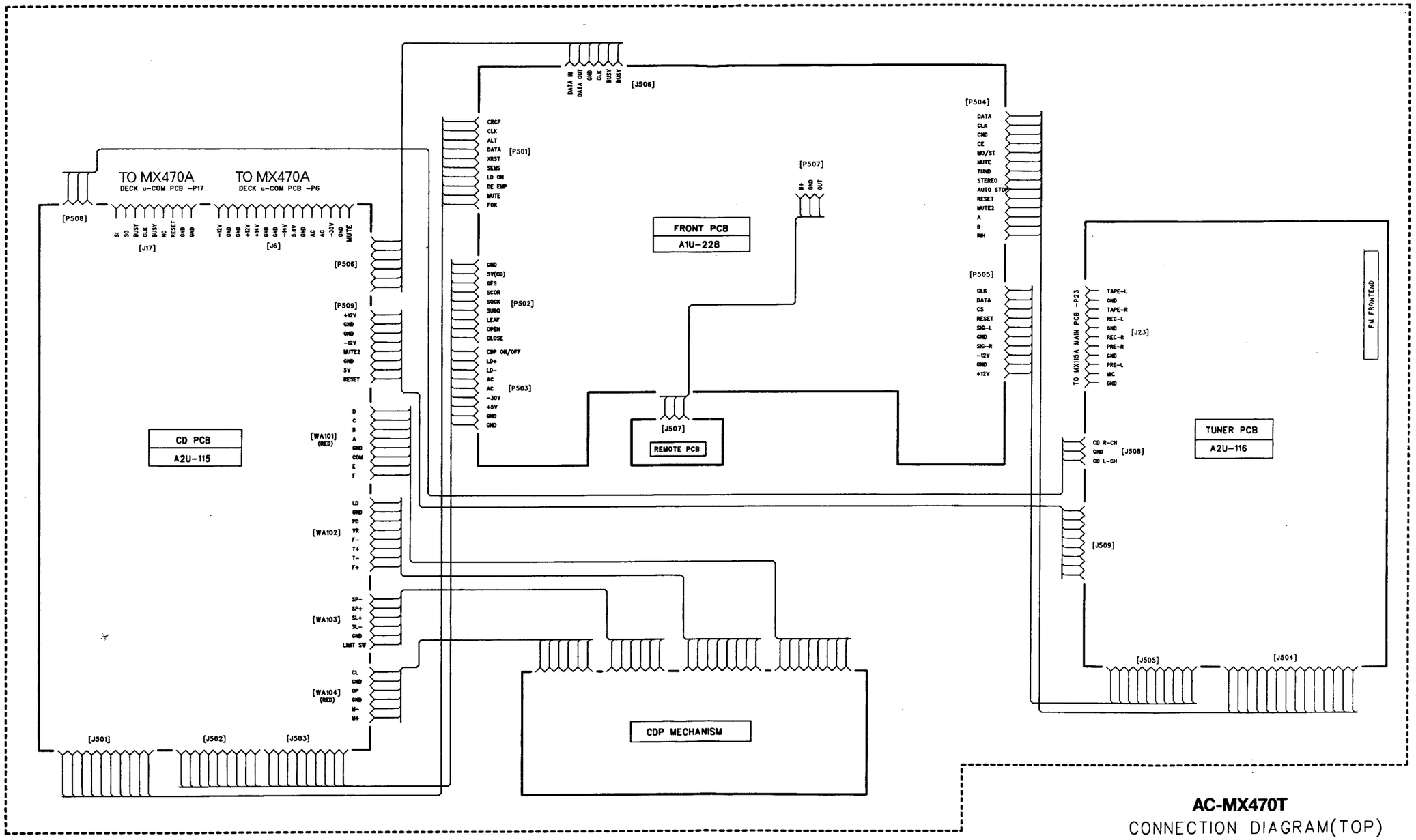
- 6. AC-MX470A MAIN & P/T 24

V. INFORMATION OF ICS MI-COM 25

I. CONNECTION DIAGRAMS

1. AC-MX470T

6 | 5 | 4 | 3 | 2 | 1



AC-MX470T
CONNECTION DIAGRAM(TOP)

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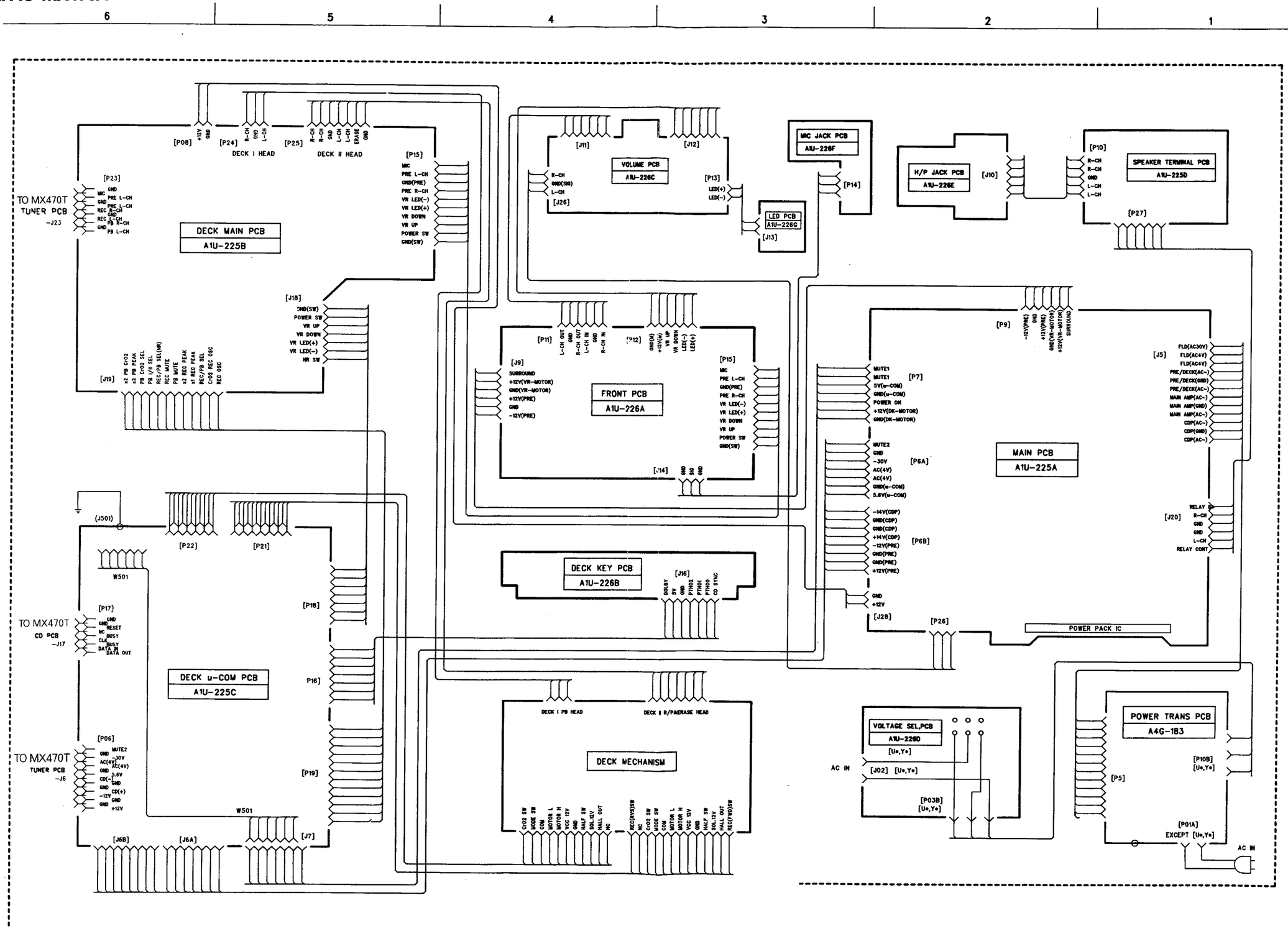
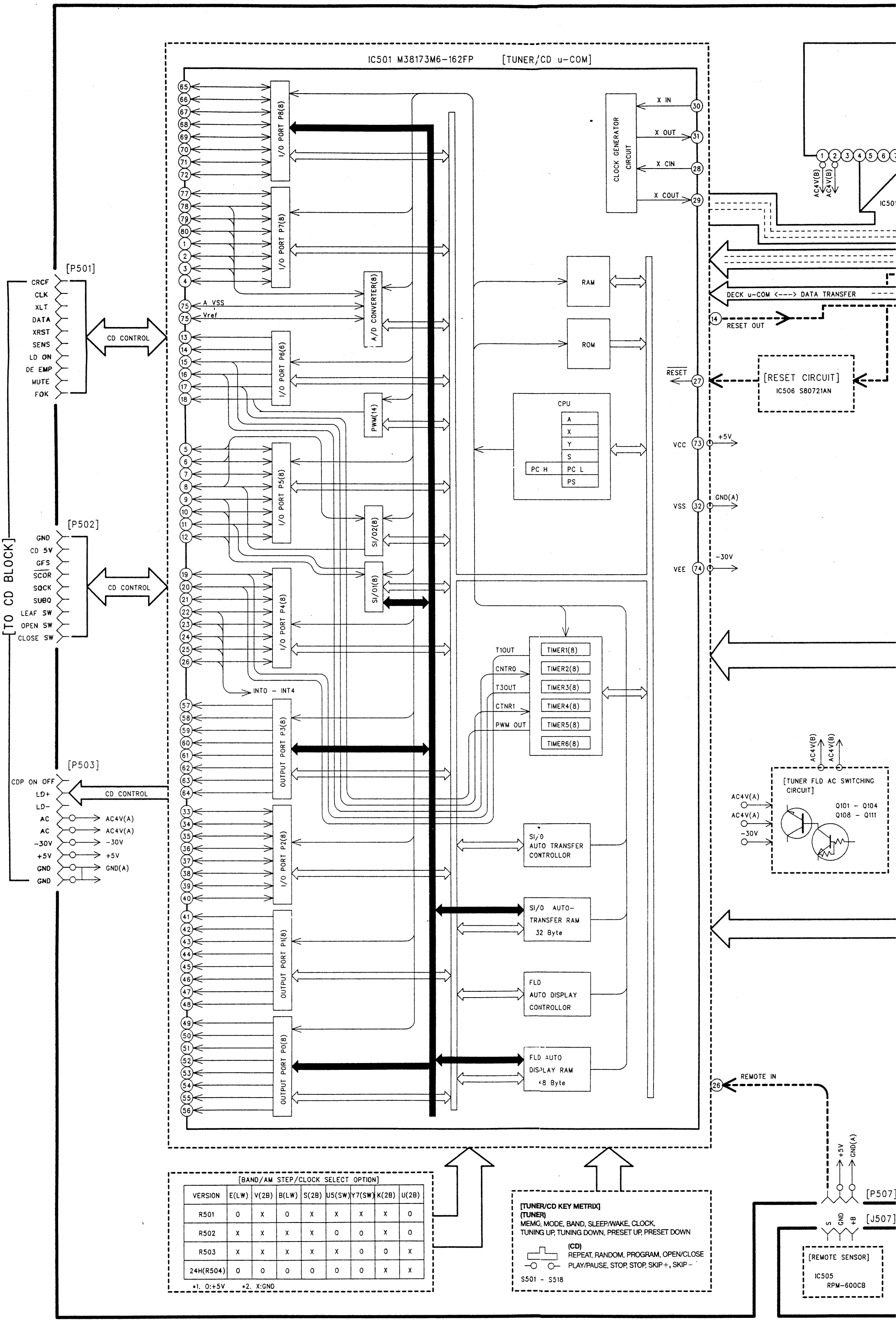
2. AC-MX470A



AKAI-01053 / Druck 14

II. AC-MX470T BLOCK DIAGRAMS FRONT (TUNER/CD, EQ μ -COM) BLOCK



[BAND/AM STEP/CLOCK SELECT OPTION]

VERSION	E(LW)	V(2B)	B(LW)	S(2B)	U5(SW)	Y7(SW)	K(2B)	U(2B)
R501	0	X	0	X	X	X	X	0
R502	X	X	X	X	0	0	X	0
R503	X	X	X	X	X	0	0	X
24H(R504)	0	0	0	0	0	0	X	X

*1. 0:+5V *2. X:GND

[TUNER/CD KEY METRIX]
(TUNER)
MEMO, MODE, BAND, SLEEP/WAKE, CLOCK,
TUNING UP, TUNING DOWN, PRESET UP, PRESET DOWN

(CD)
REPEAT, RANDOM, PROGRAM, OPEN/CLOSE
PLAY/PAUSE, STOP, STOP, SKIP+, SKIP-

S501 - S518

R/CD, EQ μ -COM) BLOCK

NER/CD u-COM]

CLOCK GENERATOR CIRCUIT
X IN 30
X OUT 31
X CIN 28
X COUT 29

[TUNER/CD FL DISPLAY]
FL501 SVA-11SS01
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
AC4V(B) AC4V(B)
IC501 PIN56-64
IC501 PIN45-55
AC4V(B) AC4V(B)

[EQ SPECTRUM/FUNCTION/
FL502 SVA-14B
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
AC4V(A) AC4V(A)
IC502 PIN29-39

RAM
ROM
CPU
A
X
Y
S
PC H PC L
PS

DECK u-COM <---> DATA TRANSFER

14 RESET OUT

RESET 27
[RESET CIRCUIT]
IC506 S80721AN

VCC 73 +5V
VSS 32 GND(A)
VEE 74 -30V

IC502 HD4074719A34FS [EQ u-COM]
4 75 -12V

AN7/RD3 3
AN6/RD2 2
AN5/RD1 1
AN4/RD0 80
RD
AN3/RC3 79
AN2/RC2 78
AN1/RC1 77
AN0/RC0 76
RC
TOD/RB1 74
TOC/RB0 73
RB
BUZZ/RA3 72
TOG/RA2 71
ICT1/RA1 70
ICT0/RA0 69
RA
SO2/R93 68
SI2/R92 67
SCK2/R91 66
SCK1/R90 65
R9
SI1/R83 64
SO1/R82 63
INT5/R81 62
INT4/R80 61
R8

AGND AVCC AN7 AN6 AN5 AN4 AN3 AN2 AN1 AN0 COMP Vref TOG INT4 ICT1 ICT0 BUZZ TOE2 TOE1 TOD TOC INT7 INT0 INT1 INT2 INT3 INT4 INT5

Comparator | Output Compare | Input Capture | Buzzer | Timer -E | Timer -D | Timer -C | Timer -B | Timer -A | External Interrupt

INTERRUPT CONTROL

RAM 960x4bits

INSTRUCTION DECODER
STACK POINTER
ROM 16384x16bits
W(2) X(4) Y(4) ALU ST CA A(4) B(4) PROGRAM COUNTER
SPX(4) SPY(4)
D - PORT

R7 R6 R5 R4 R3 R2 R1 R0

INT3/R73 INT2/R72 INT1/R71 INT0/R70 TOE2/R63 TOE1/R62 Vref/R61 COMP/R60 R53 R52 R51 Vdisp/R50 R43 R42 R41 R40 R33 R32 R31 R30 R23 R22 R21 R20 R13 R12 R11 R10 R03 R02 R01 R00

60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29

TIMER1(8)
TIMER2(8)
TIMER3(8)
TIMER4(8)
TIMER5(8)
TIMER6(8)

SI/O AUTO TRANSFER CONTROLLOR
SI/O AUTO-TRANSFER RAM 32 Byte
FLD AUTO DISPLAY CONTROLLOR
FLD AUTO DISPLAY RAM 48 Byte

AC4V(B) AC4V(B)
[TUNER FLD AC SWITCHING CIRCUIT]
AC4V(A)
AC4V(A)
-30V
Q101 - Q104
Q108 - Q111

[KEY INPUT]
INPUT SEL,SOUND CHARACTER,
MEMO,LEFT,DOWN,UP,RIGHT
(S519 -S525)

IC503 GD74LS05
1 2 3 4 5 6 7
1A 1Y 2A 2Y 3A 3Y GND
14 13 12 11 10 9 8
VCC 6A 6Y 5A 5Y 4A 4Y
+12V
GND(B)
-12V
[HEX INVERTER(DATA BUFFER)]

15 CLK/2 Buffer
1 OUT63 PEAK HOLD
2 OUT160 PEAK HOLD
3 OUT400 PEAK HOLD
4 OUT1K PEAK HOLD
5 OUT2.5K PEAK HOLD
6 OUT6.3K PEAK HOLD
7 OUT16K PEAK HOLD
8 OUTPK PEAK HOLD
[GRAPHIC EQU

REMOTE IN 26

[TUNER/CD KEY METRIX]
(TUNER)
MEMO, MODE, BAND, SLEEP/WAKE, CLOCK,
TUNING UP, TUNING DOWN, PRESET UP, PRESET DOWN
(CD)
REPEAT, RANDOM, PROGRAM, OPEN/CLOSE
PLAY/PAUSE, STOP, STOP, SKIP+, SKIP-
S501 - S518

+5V GND(A)
[P507]
S GND +B [J507]
[REMOTE SENSOR]
IC505
RPM-600CB

[J506]
BUSY BUSY CLK GND Sout Sin
[TO CD BLOCK]
(DECK u-COM DATA)

FRONT PCB
A1U-228

[TUNER/CD FL DISPLAY]

FL501 SVA-11SS01

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

)1 PIN56-64

IC501 PIN45-55

AC4V(B) AC4V(B)

[EQ SPECTRUM/FUNCTION/TAPE MODE DISPLAY]

FL502 SVA-14BE01

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

AC4V(A) AC4V(A)

IC502 PIN29-39

IC502 PIN13-26

AC4V(A) AC4V(A)

IC502 HD4074719A34FS [EQ u-COM]

-12V

4 75

AN7/RD3 3
AN6/RD2 2
AN5/RD1 1
AN4/RD0 80
RD

AN3/RC3 79
AN2/RC2 78
AN1/RC1 77
AN0/RC0 76
RC

TOD/RB1 74
TOC/RB0 73
RB

BUZZ/RA3 72
TOG/RA2 71
ICT1/RA1 70
ICT0/RA0 69
RA

SO2/R93 68
SI2/R92 67
SCK2/R91 66
SCK1/R90 65
R9

SI1/R83 64
SO1/R82 63
INT5/R81 62
INT4/R80 61
R8

AGND AVCC AN7 AN6 AN5 AN4 AN3 AN2 AN1 AN0 COMP Vref TOG INT4 ICT1 ICT0 BUZZ TOE2 TOE1 TOD TOC INT1 INT0 INT1 INT2 INT3 INT4 INT5

Comparator | Output Compare | Input Capture | Buzzer | Timer -E | Timer -D | Timer -C | Timer -B | Timer -A | External Interrupt

INTERRUPT CONTROL

RAM 960x4bits

SYSTEM CONTROL

VCC 12 +5V
GND 8 GND(A)
OSC1 6
OSC2 7
CL1 9
CL2 10
RESET 5
TEST 11

INSTRUCTION DECODER

STACK POINTER

ROM 16384x16bits

PROGRAM COUNTER

W(2) X(4) Y(4) ALU ST CA A(4) B(4)

SPX(4) SPY(4)

D - PORT

D0 13
D1 14
D2 15
D3 16
D4 17
D5 18
D6 19
D7 20
D8 21
D9 22
D10 23
D11 24
D12 25
D13 26
D14 27
D15 28

R7 R6 R5 R4 R3 R2 R1 R0

INT3/R73 60 INT2/R72 59 INT1/R71 58 INT0/R70 57
TOE2/R63 56 TOE1/R62 55 Vref/R61 54 COMP/R60 53
R53 52 R52 51 R51 50 Vdisp/R50 49
R43 48 R42 47 R41 46 R40 45
R33 44 R32 43 R31 42 R30 41
R23 40 R22 39 R21 38 R20 37
R13 36 R12 35 R11 34 R10 33
R03 32 R02 31 R01 30 R00 29

[P504]

DATA
CK
GND
CE
MONO/STEREO
MUTE
TUND
STEREO
AUTO STOP
RESET
MUTE2
A
B
INH

[TO TUNER BLOCK]

+12V -12V GND(B)

[KEY INPUT]

INPUT SEL,SOUND CHARACTER,
MEMO,LEFT,DOWN,UP,RIGHT

(S519 -S525)

IC503 GD74LS05

1A 1 1Y 2 2A 3 2Y 4 3A 5 3Y 6 GND 7
VCC 14 6A 13 6Y 12 5A 11 5Y 10 4A 9 4Y 8

+12V
GND(B)
-12V

[HEX INVERTER(DATA BUFFER)]

FRONT PCB

A1U-228

VDD 16 VSS 9 GND 12

CLK/2 15 Buffer

Clock Divider

Osciiiator Clock-Generator

CLKR 14
CLKC 13

OUT63 1 PEAK HOLD 63Hz Bandpass Filter
OUT160 2 PEAK HOLD 160Hz Bandpass Filter
OUT400 3 PEAK HOLD 400Hz Bandpass Filter
OUT1K 4 PEAK HOLD 1KHz Bandpass Filter
OUT2.5K 5 PEAK HOLD 2.5KHz Bandpass Filter
OUT6.3K 6 PEAK HOLD 6.3KHz Bandpass Filter
OUT16K 7 PEAK HOLD 16KHz Bandpass Filter
OUTPK 8 PEAK HOLD

Mixer/ 3 Pole SC Anti-Aliasing Filter

2 Pole Continuous Time Anti-Aliasing Filter

2 Pole Continuous Time Anti-Aliasing Filter

L IN 11
R IN 10

IC504 XR-1091

[GRAPHIC EQUALIZER DISPLAY FILTER]

[P505]

CK
DATA
CS
RESET(DK)
SIG.L
GND
SIG.R

-12V -12V
GND(B) GND
+12V +12V

[TO TUNER BLOCK]

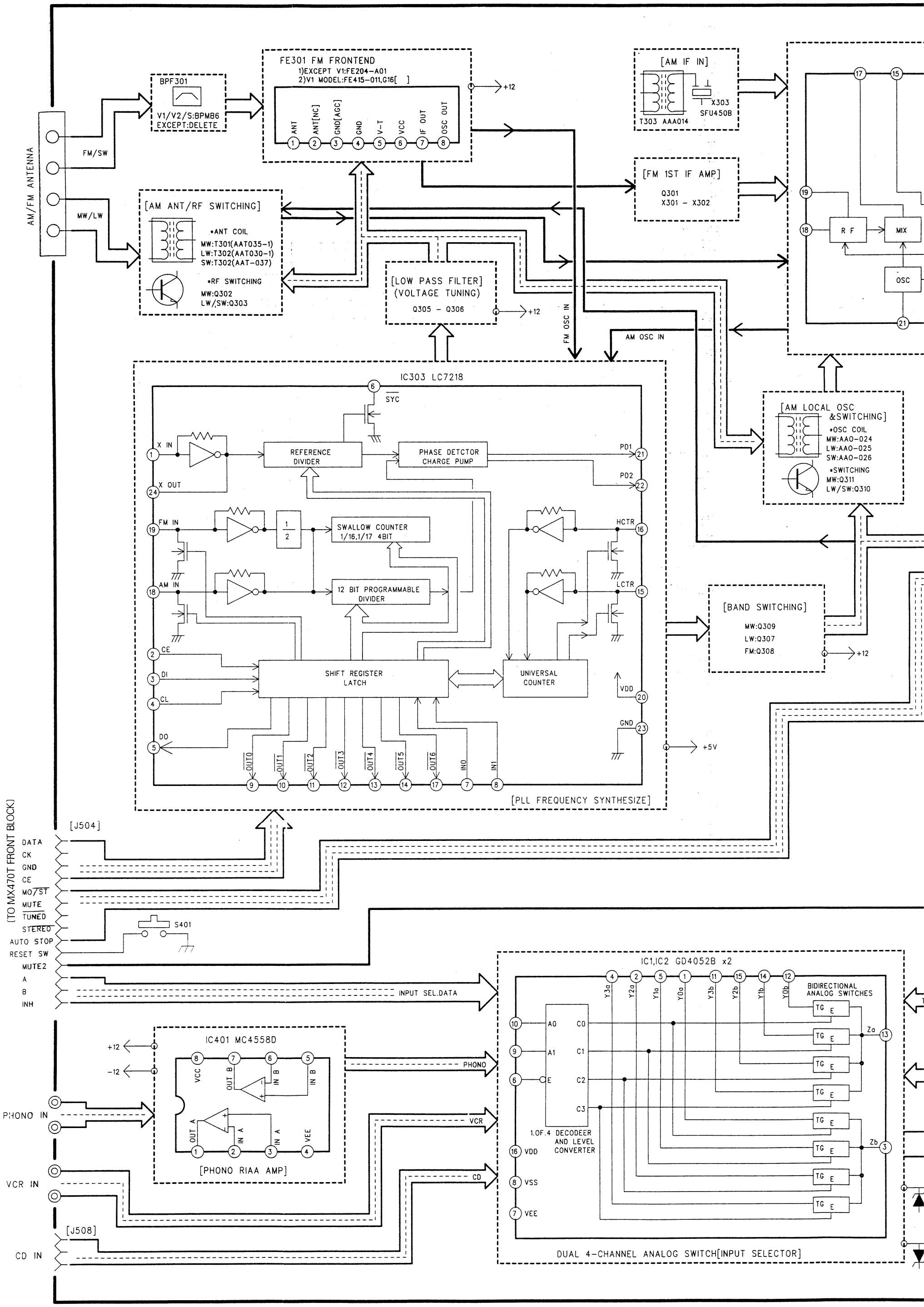
BUSY BUSY CLK GND Sout Sin

[J506]

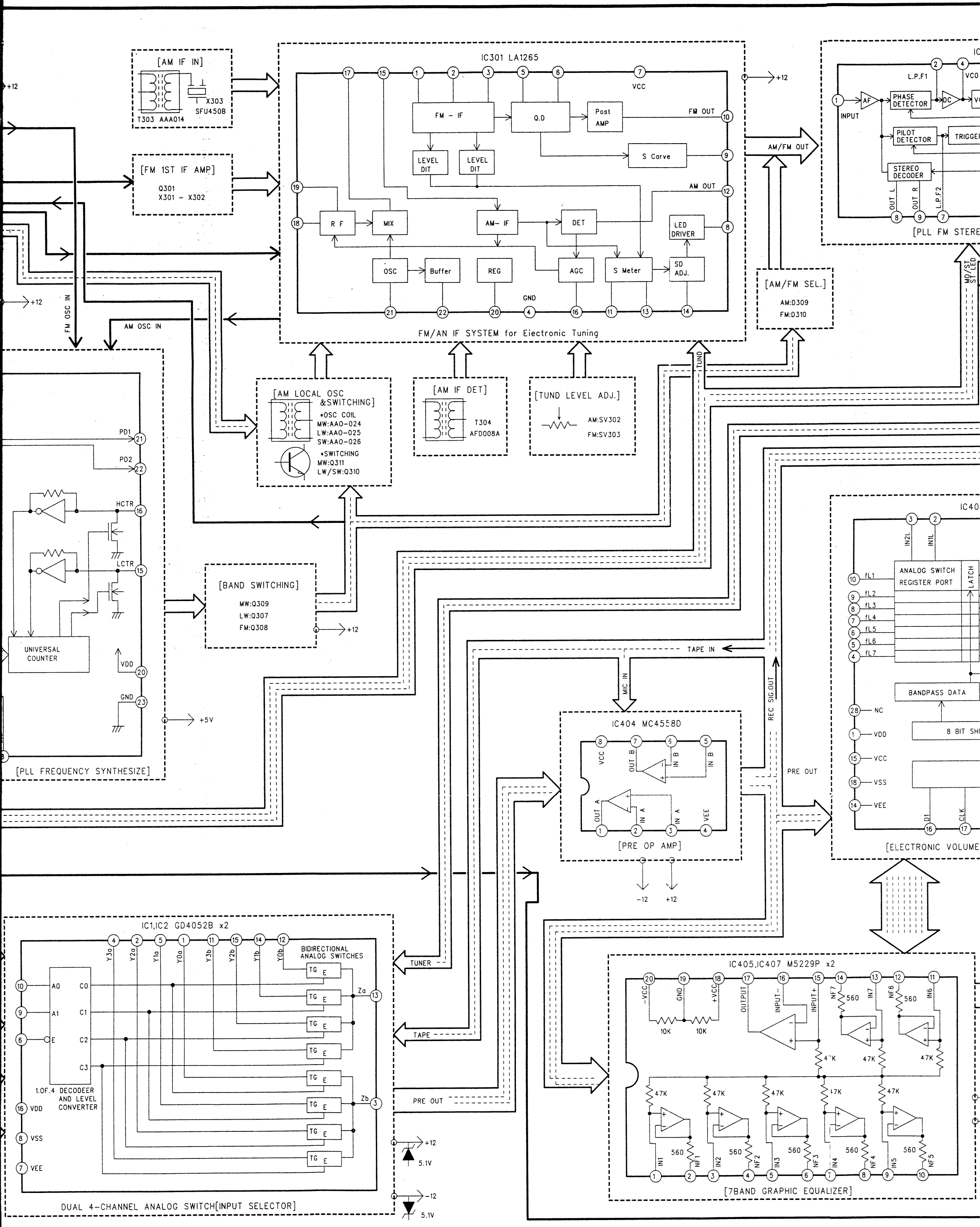
[TO CD BLOCK]
(DECK u-COM DATA)

AC-MX470T
BLOCK DIAGRAMS FRONT
(TUNER/CD, EQ μ -COM) BLOCK

II. AC-MX470T BLOCK DIAGRAMS (TUNER & G-EQ CONTROL PART)



EQ CONTROL PART)



IC301 LA1265

VCC

FM – IF

Q.D

Post AMP

FM OUT

S Carve

LEVEL DIT

LEVEL DIT

AM OUT

MIX

AM– IF

DET

LED DRIVER

OSC

Buffer

REG

AGC

S Meter

SD ADJ.

GND

FM/AN IF SYSTEM for Eiectronic Tuning

+12

AM/FM OUT

IC302 KIA6043S

L.P.F1

VCO ADJ.

INPUT

AF

PHASE DETECTOR

DC

VCO 76KHz

1/2

1/2

PILOT DETECTOR

TRIGGER

STEREO SWITCH

1/2

STEREO DECODER

STABILIZED POWER SUPPLY

OUT L

OUT R

L.P.F2

LED

GND

VCC

[PLL FM STEREO MULTIPLEX]

+12

[MPX FILTER]

T306,T307

[TUNER MUTE]

Q317,Q317

MUTE DATA

TUNER OUT PUT

[AM/FM SEL.]

AM:D309

FM:D310

MO/ST ST LED

TUNER PCB

A2U–116

[J23]

GND

MIC

TAPE L

GND

TAPE R

REC R

GND

REC L

PRE R

GND

PRE L

PRE OUT

(TO MX470A DECK BLOCK)

[AM IF DET]

T304

AFD008A

[TUND LEVEL ADJ.]

AM:SV302

FM:SV303

TUND

IC406 NJU–7305

IN2L

IN1L

IN2R

IN1R

ANALOG SWITCH REGISTER PORT

LATCH

fL1

fL2

fL3

fL4

fL5

fL6

fL7

fR1

fR2

fR3

fR4

fR5

fR6

fR7

BANDPASS DATA

GAIN DATA

NC

VDD

VCC

VSS

VEE

8 BIT SHIFT REGISTER

CONTROL

LATCH SIG.

D1

CLK

S

TEST1

TEST2

[ELECTRONIC VOLUME for GRAPHIC EQUALIZER]

8.2V

+12

8.2V

–12

+5V

[J505]

CK

DATA

CS

XR L

GND

XR R

RESET

EQ SPECTRUM DATA

–12

+12

GND

(TO MX470T FRONT BLOCK)

TAPE IN

MIC IN

REC SIG.OUT

PRE OUT

IC404 MC4558D

VCC

OUT B

IN B

IN B

OUT A

IN A

IN A

VEE

[PRE OP AMP]

–12

+12

TUNER

TAPE

PRE OUT

+12

5.1V

–12

5.1V

IC405,IC407 M5229P x2

–VCC

GND

+VCC

OUTPUT

INPUT–

INPUT+

NF7

560

IN7

NF6

560

IN6

10K

10K

47K

47K

47K

47K

47K

47K

47K

47K

560

560

560

560

560

IN1

NF1

IN2

NF2

IN3

NF3

IN4

NF4

IN5

NF5

[7BAND GRAPHIC EQUALIZER]

PRE OUT

+12

–12

[J509]

RESET

+5V

GND

MUTE2

–12V

GND

GND

+12V

+5V

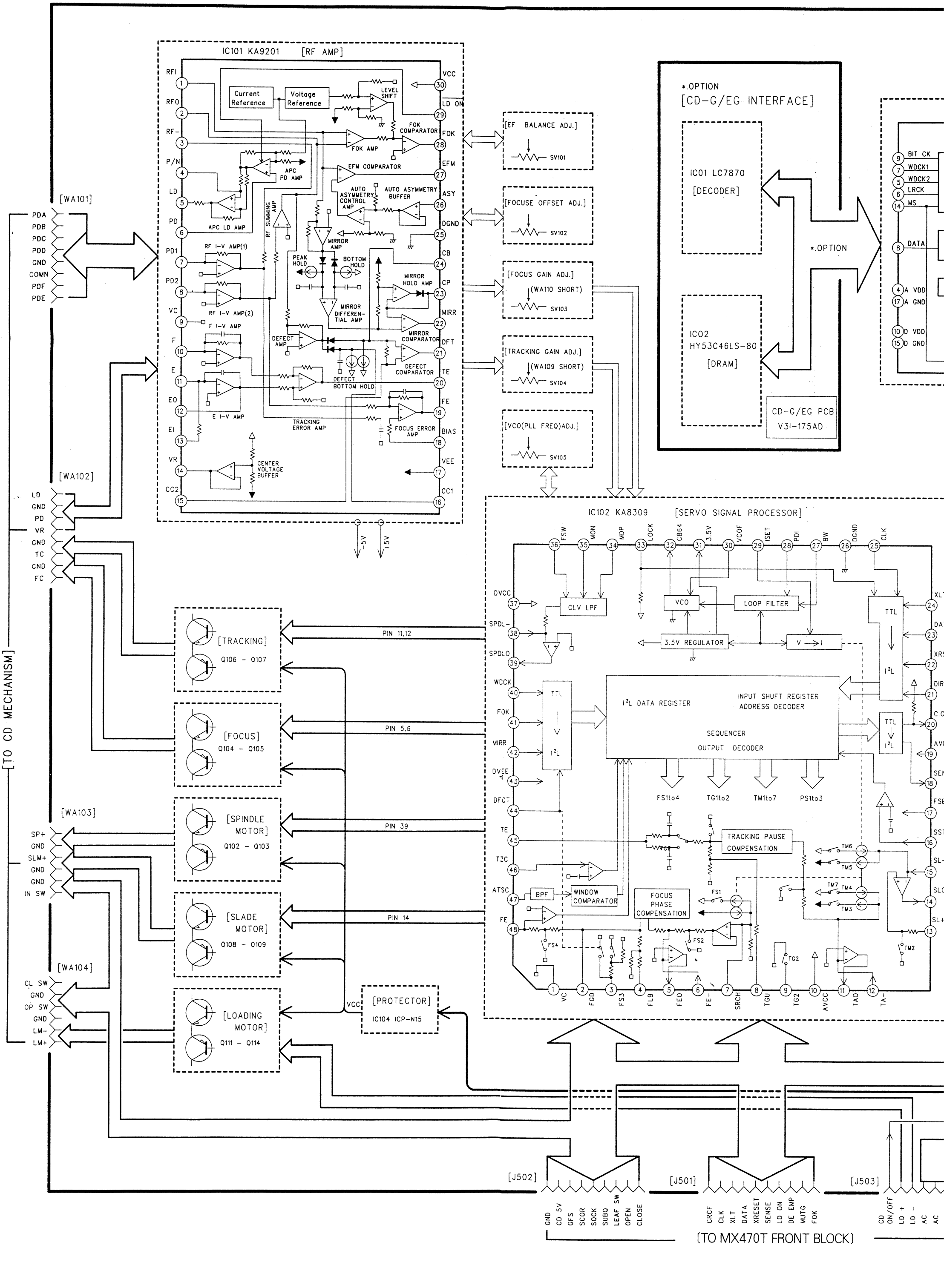
–12V

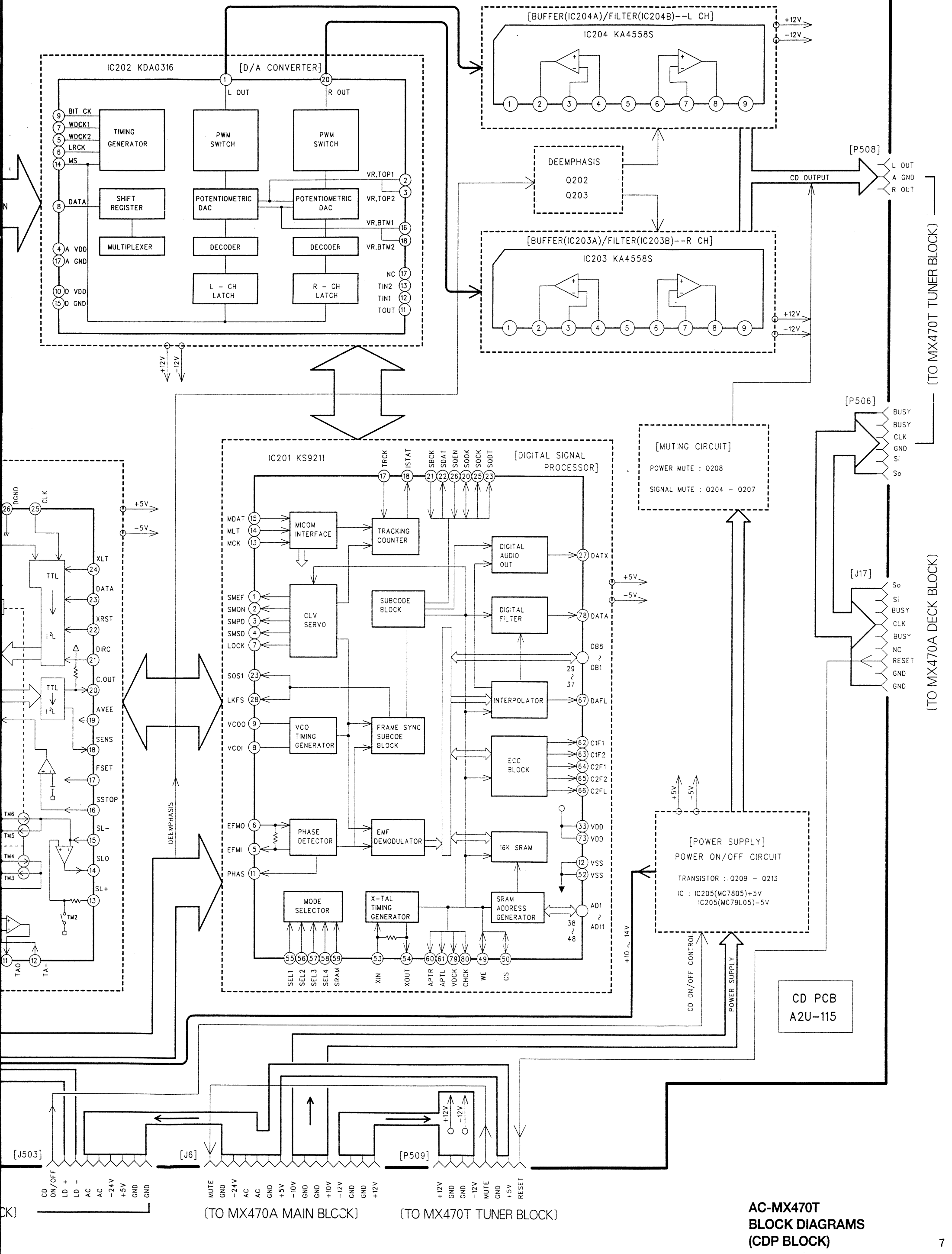
+12V

(TO MX470T CD BLOCK)

AC-MX470T
BLOCK DIAGRAMS
(TUNER & G-EQ CONTROL PART)

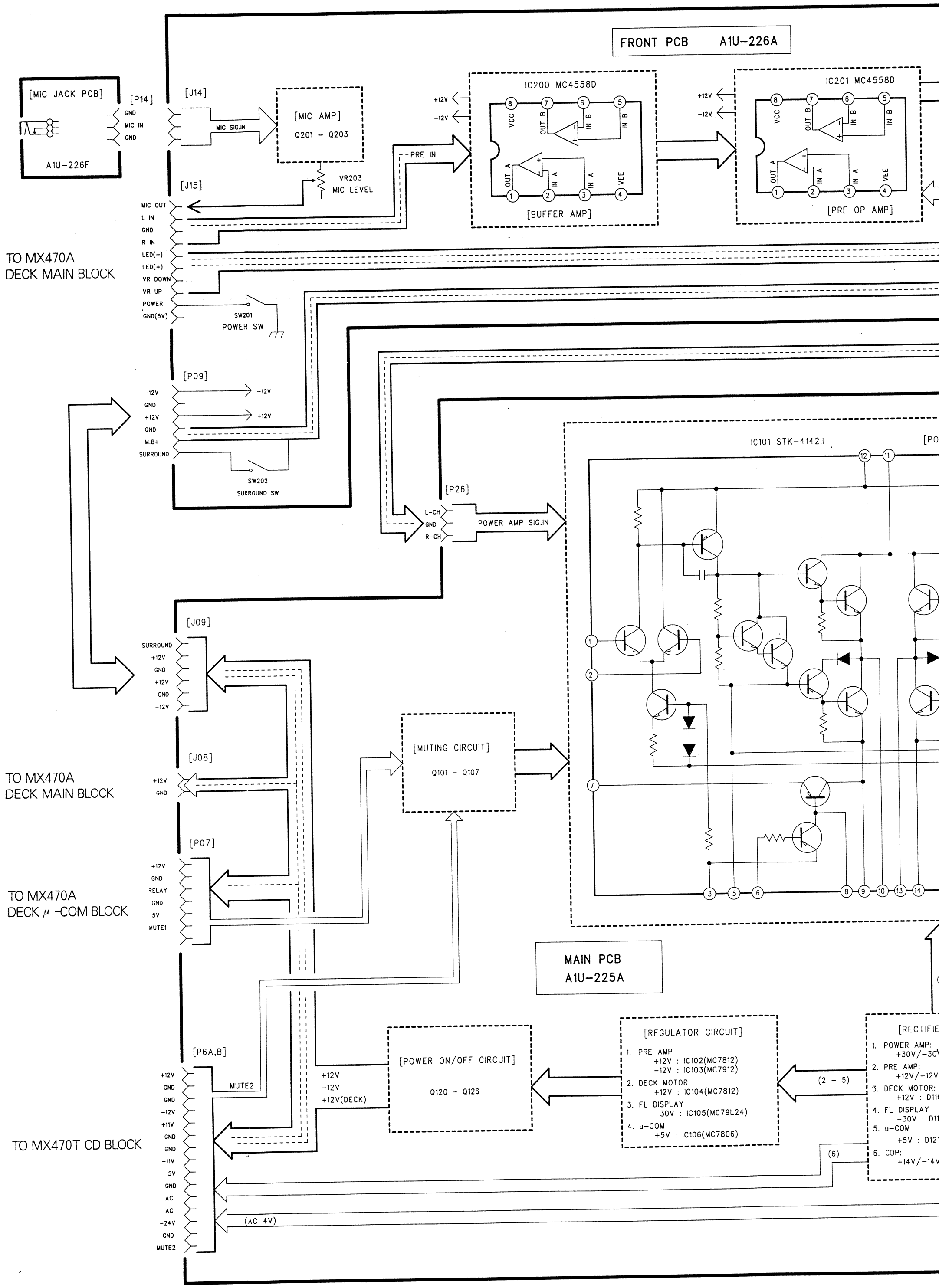
II. AC-MX470T BLOCK DIAGRAMS (CDP BLOCK)





AC-MX470T
BLOCK DIAGRAMS
(CDP BLOCK)

II. AC-MX470A BLOCK DIAGRAMS (MAIN/FRONT PART)



[VOLUME PCB]
A1U-226C

[P11]
[J11]
[P13]
[J13]
[J26]
[P12]
[J12]

IC201 MC4558D
[PRE OP AMP]
IN B
IN A
VEE

VR IN(L)
GND
VR IN(R)
VR OUT(L)
GND
VR OUT(R)
VR201
BALANCE

VR202
MOTOR VOLUME

LED(-)
LED(+)
VR LED

[LED PCB]
A1U-226G

[SUPPER BASS]
SW201
Q204 - Q205

IC202 BA6208
VCC
A IN
A OUT
B IN
B OUT
GND
[MOTOR DRIVE]

GND
M.B+
VR UP
VR DOWN
LED(+)
LED(-)

[H/P JACK PCB]
PCB NO:A1U-226E
L-CH
L-CH
GND
R-CH
R-CH
[J10]
TO MAIN PCB

[POWER AMP]

[SPEAKER TERMINAL PCB]
A1U-225D
[P27]
[P10]
[J27]
OUT PUT
SURROUND
L-CH
GND
GND
R-CH
RELAY B+
RY102
[SURROUND]
[MAIN]
SPEAKER TERMINAL

OUT PUT
[PROCTOR CIRCUIT]
Q108 - Q109

[P05]
P/T PCB
A4G-183
[J03]
POWER TRANS
[U/Y]

VTG.SEL PCB
A1U-226D
[P03]
[U/Y]
[J02]
AC IN
SW101
[U/Y]

(1)
[RECTIFIER CIRCUIT]
1. POWER AMP:
+30V/-30V : D108 - D111
2. PRE AMP:
+12V/-12V : D112 - D115
3. DECK MOTOR:
+12V : D116 - D117
4. FL DISPLAY
-30V : D119
5. u-COM
+5V : D121 - D122
6. CDP:
+14V/-14V : D123 - D126

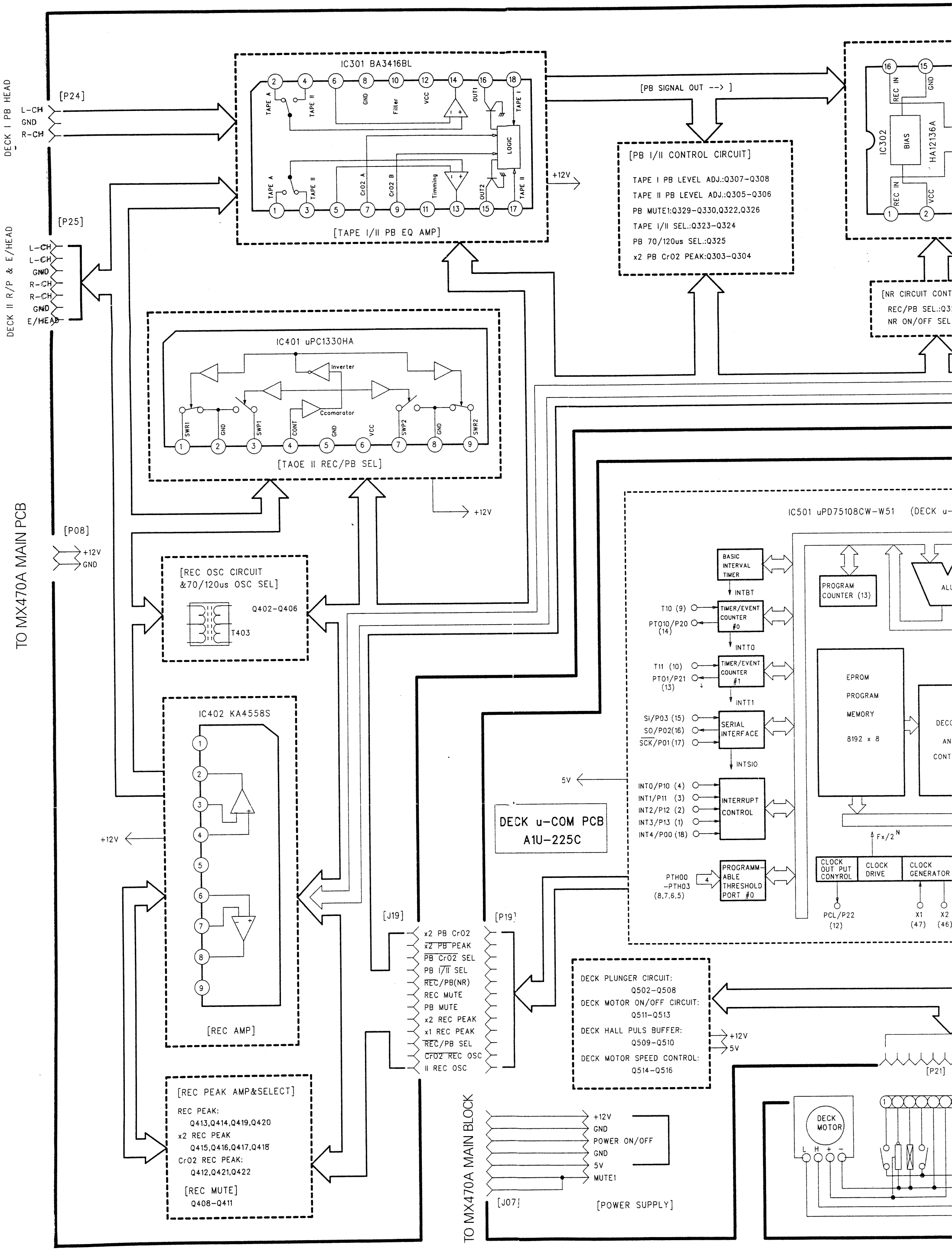
(2 - 5)
(6)

[J05]
[U/Y]
[P05]
P/T PCB
A4G-183
[P01]
POWER TRANS
[E/V/S/B/A/K]
AC IN

*** AC POWER SOURCE**
1) E/V1/V2:230V/50Hz
2) S/B:240V/50Hz
3) U5/U8/Y1/Y2:110/120/220/240V, 50-60HZ
4) Y3/Y4/Y7:110/127/220/240V, 50-60Hz
5) K:220V/60Hz
6) A:120V/60HZ

AC-MX470A
BLOCK DIAGRAMS
(MAIN/FRONT PART)

II. AC-MX470A BLOCK DIAGRAMS (DECK MAIN & CONTROL PART)



IC302
HA12136A
BIAS
SW
BUF AMP
SIDE CHAIN
REC IN
GND
PB IN
BIAS
REC /PB
PB OUT
DET
REC OUT
VCC
V ref
NR ON/OFF

[PB SIGNAL OUT -->]
[<-- REC SIGNAL]
[REC BUFFER AMP]
Q311 - Q314
[<-- REC SIGNAL]
[P23]
PB L
GND
PB R
REC L
GND
REC R
PRE R
GND
PRE L
MIC
GND
TO MX470T TUNER BLOCK

[NR CIRCUIT CONTROL]
REC/PB SEL.:Q321
NR ON/OFF SEL.:Q319-Q320
TO (J18 *A)
[REC SIGNAL -->]
[AUTO REC LEVEL CONTROL]
Q315 - Q318
[<-- REC SIGNAL]

DECK MAIN PCB
A1U-225B

8CW-W51 (DECK u-COM)
(13)
ALU
CY
SP (8)
BANK
GENERAL REG.
PROM
ROGRAM
EMORY
92 x 8
DECODE
AND
CONTROL
RAM
DATA MEMORY
512 x 4 BITS
BIT SEQ. BUFFER(16)
PORT 0 4 P00-P03
PORT 1 4 P10-P13
PORT 2 4 P20-P23 (11)
PORT 3 4 P30-P33 (36,35,34,33)
PORT 4 4 P40-P43 (40,39,38,37)
PORT 5 4 P50-P53 (44,43,42,41)
PORT 6 4 P60-P63 (51,50,49,48)
PORT 7 4 P70-P73 (55,54,53,52)
PORT 8 4 P80-P83 (59,58,57,56)
PORT 9 4 P90-P93 (63,62,61,60(
PORT 12 4 P120-P123 (22,21,20,19)
PORT 13 4 P130-P133 (26,25,24,23)
PORT 14 4 P140-P143 (30,29,28,27)
Fx/2^N
CLOCK DRIVE
CLOCK GENERATOR
STAND BY CONTROL
CPU CLOCK
X1 (47)
X2 (46)
VPP (31)
VDD (32)
Vss (64)
RESET (45)

IC502 GD74LS05
4Y
4A
5Y
5A
6Y
6A
VCC
GND
3Y
3A
2Y
2A
1Y
1A
[HEX INVERTERS(DATA BUFFER)]
5V
GND [P17]
GND
RESET
N.C
BUSY
CLK
BUSY
DATA OUT
DATA IN
TO MX470T TUNER PCB
[J15]
PRE R
GND
PRE L
MIC
GND
PWR SW
VR UP
VR DN
LED(+)
LED(-)
TO MX470A FRONT BLOCK
GND
POWER SW
VR UP
VR DOWN
LED(+)
LED(-)
DOLBY SW
TO NR CONT.
[P18]
[J18]

[P21]
[P22]
[J21]
[J22]
[DECK II]
[DECK I]
[DECK MECHA CWA414RR]
[P16]
DOLBY SW
5V
GND
PTH02
PTH01
PTH00
CD SYNC
[J16]
DECK KEY PCB
A1U-226B
[DECK CONTROL KEY METRIX] (S502-S514)

AC-MX470A
BLOCK DIAGRAMS
(DECK MAIN & CONTROL PART)

III. AC-MX470T SCHEMATIC DIAGRAMS (FRONT)

<TABLE 1> ** TUNER BAND **

VERSION	E,B(LW)	V,S(2B)	U5,Y1,Y3,Y7(SW)	U8,Y2,Y4(SW)	K(2B)	A(2B)
A0	2K2	JUMP	JUMP	2K2	JUMP	2K2
A1	JUMP	JUMP	2K2	JUMP	JUMP	2K2
A2	JUMP	JUMP	JUMP	2K2	2K2	JUMP
$\overline{12}$/24	2K2	2K2	2K2	JUMP	JUMP	JUMP

*1. 2K2 →+5V
*2. JUMP →GND

<TABLE 2> ** FUNCTION TABLE **

	A	B	INH
TUNER	L	L	L
CD	H	L	L
TAPE	*	*	H
VCR	H	H	L
PHONO	L	H	L

*1. H:+5V
*2. L:0V

FL501
CD/TUNER VFD SVA-11SS01

IC501
M38173M6 - 162FP

IC506
S80721AN

IC503
GD74LS05

TOTU[01:06]

FL502
FIL.VFD SVA-14BE01

IC502
HD4074719A34FS

FLD GRID VOLTAGE -29V ~ -32V
EQUALIZER INPUT
FLD ANODE VOLTAGE -22V ~ -32V
REFER TO THE TABLE 2

TOTAL 16KHz 6.3KHz 2.5KHz 1KHz 400Hz 160Hz 63Hz
EQ[01:08]

SEG[01:11]
G[01:14]

NR502 22K x 3
NR503 100K x 11
NR504 100K x 7
NR505 100K x 7
NR508 22K x 4
NR509 22K x 4
NR501 100K x 8

INPUT SEL. SOUND CHA. MEMO LEFT DOWN UP RIGHT
S519 S520 S521 S522 S523 S524 S525

X503 CST 4.19MGW
X502 32.768KHz

RESET IC
IC506 S80721AN

IC503 GD74LS05

IC505 RPM-6000C8
REMOTE SENSOR

IC504 XR-1091

Q106 DTA114ES
Q107 KTC3198
ZD502 6.2V
ZD503 5.6V
ZD504 5.6V
D506 1S2471

BSC[01:04]
CD[01:03]

TOTU01 DATA
TOTU02 CK
GND
TOTU03 CE
TOTU04 MONO/STEREO
TOTU05 MUTE
TUND
STEREO
TOTU06 AUTO STOP
RESET
MUTE2
A
B
INH

CD001 CK
CD002 DATA
CD003 CS
RESET(M-COM)
L
NC
R
-12V
NC
+12V

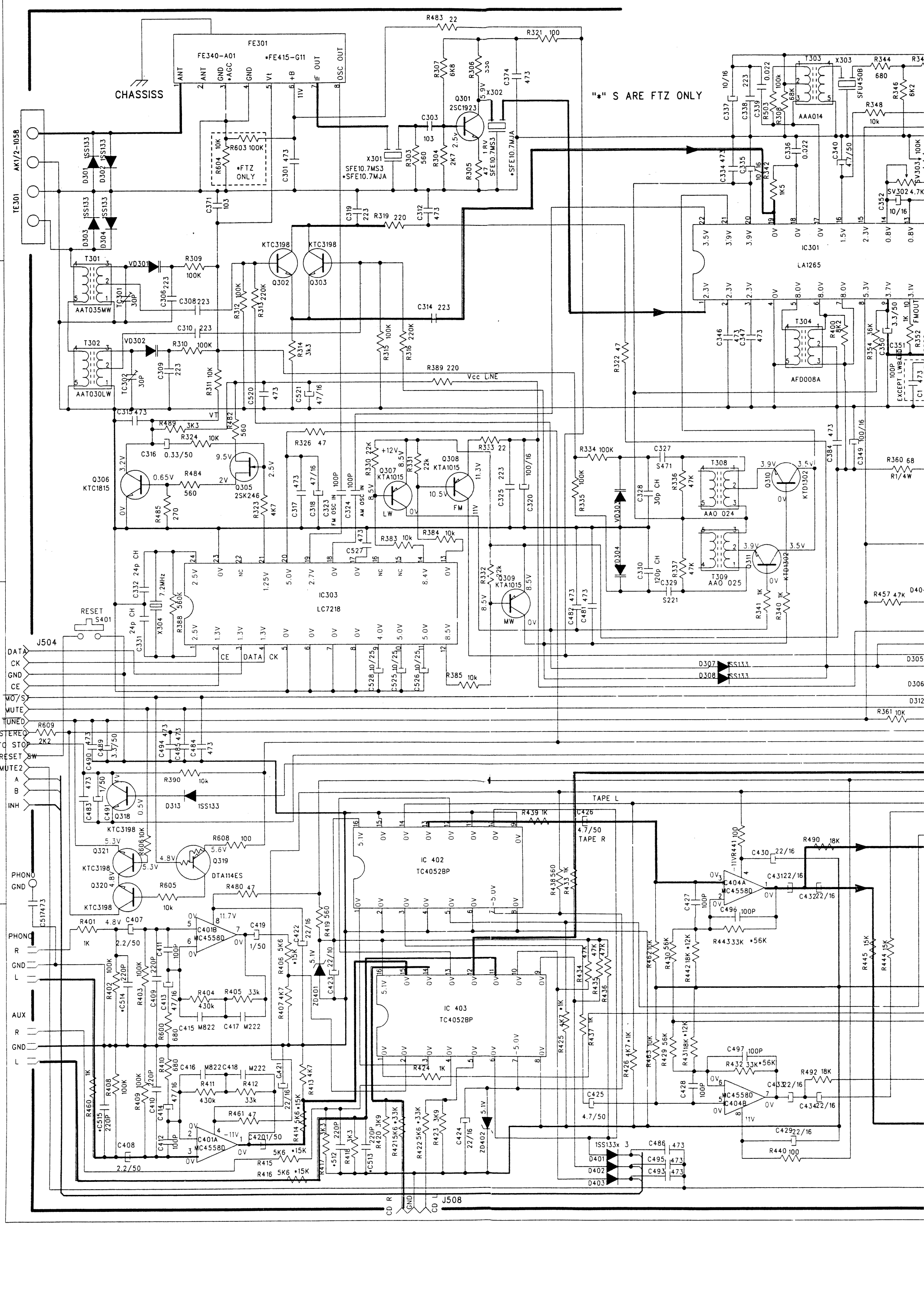
BUSY BUSY CLK GND Sout Sin S GND +B

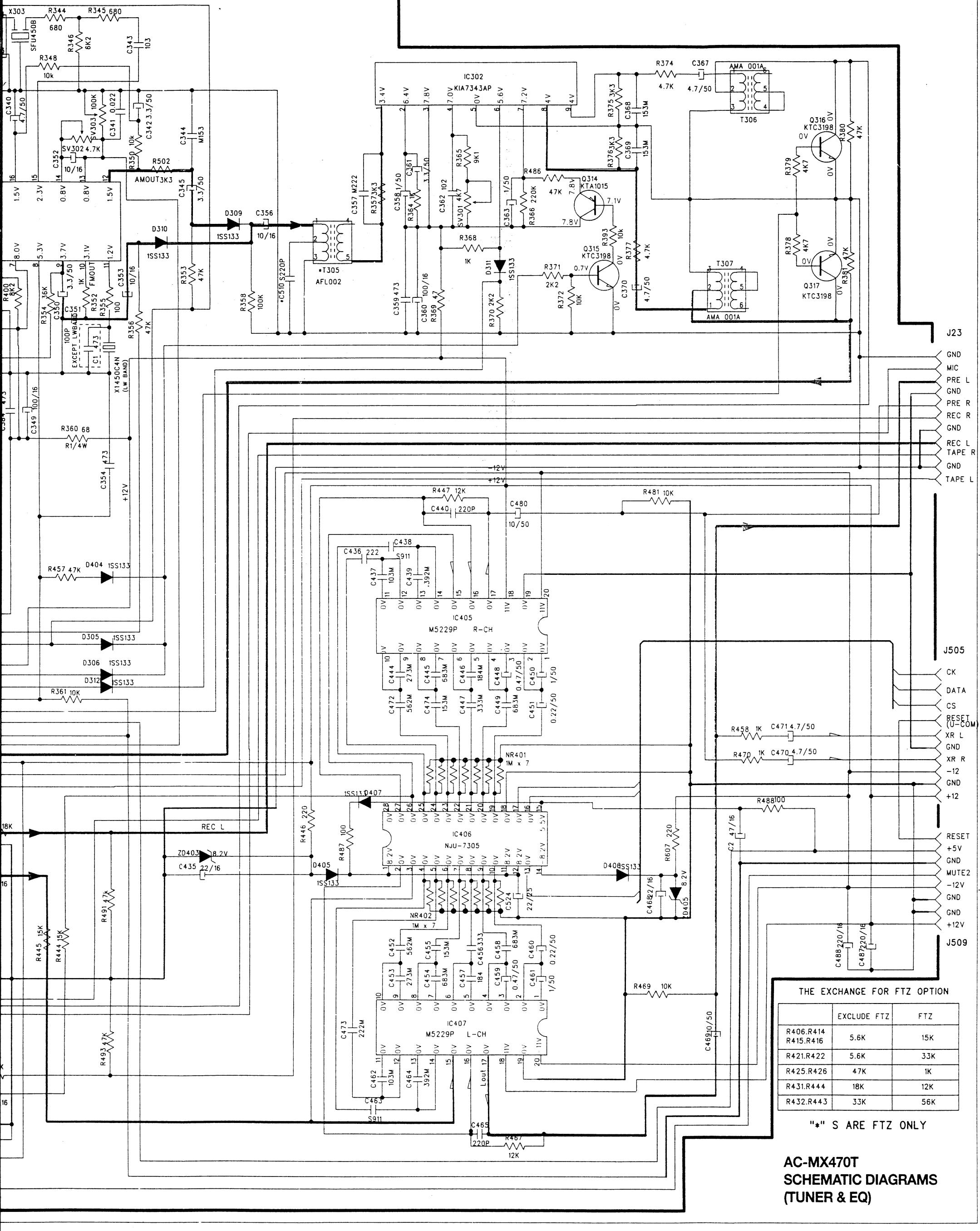
•NOTE
INDICATED VOLTAGES WERE MEASURED AT INITIAL STATE (POWER ON STATE)

PCB NO.: A1U-228

AC-MX470T
SCHEMATIC DIAGRAMS
(FRONT)

III. AC-MX470T SCHEMATIC DIAGRAMS (TUNER & EQ)





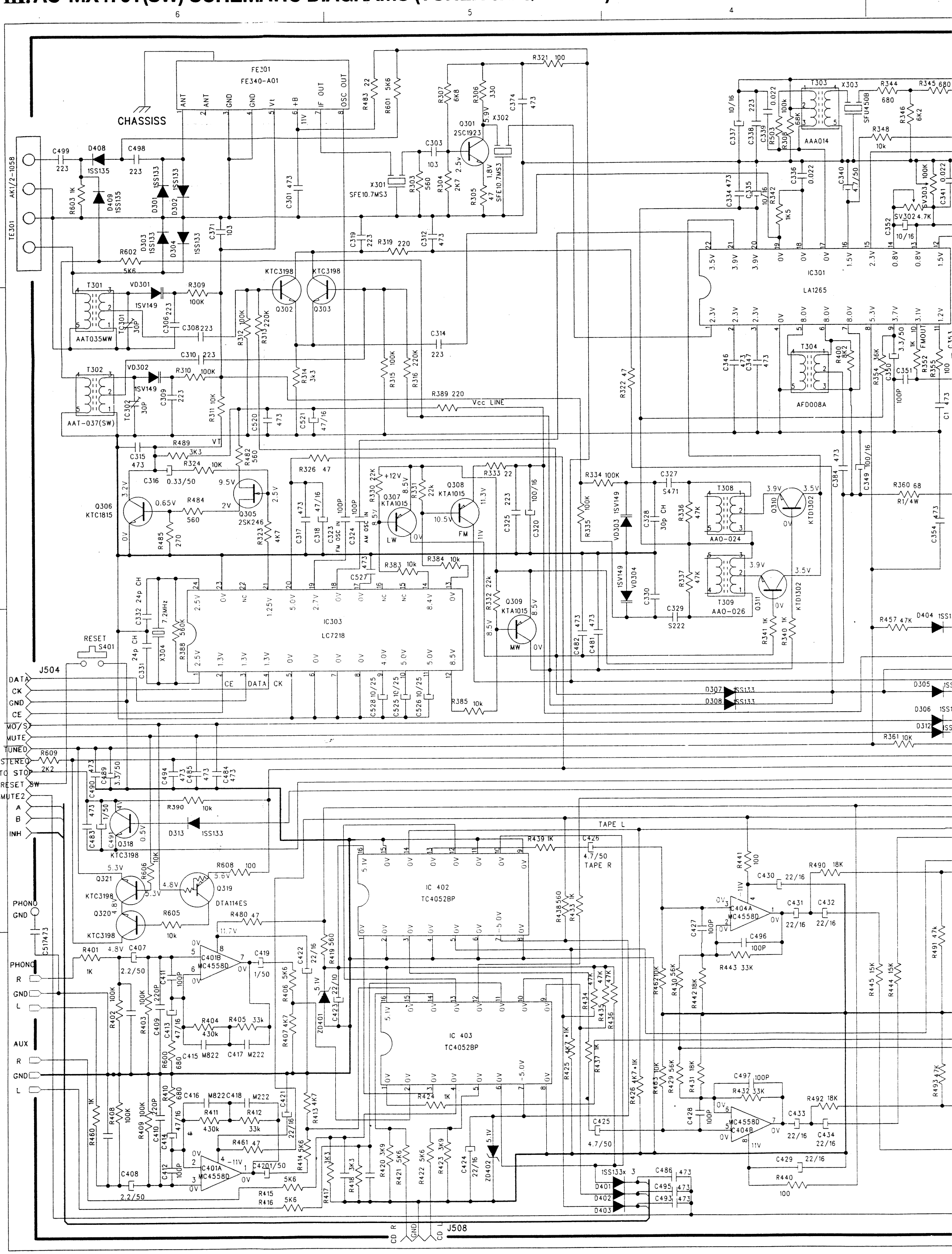
THE EXCHANGE FOR FTZ OPTION

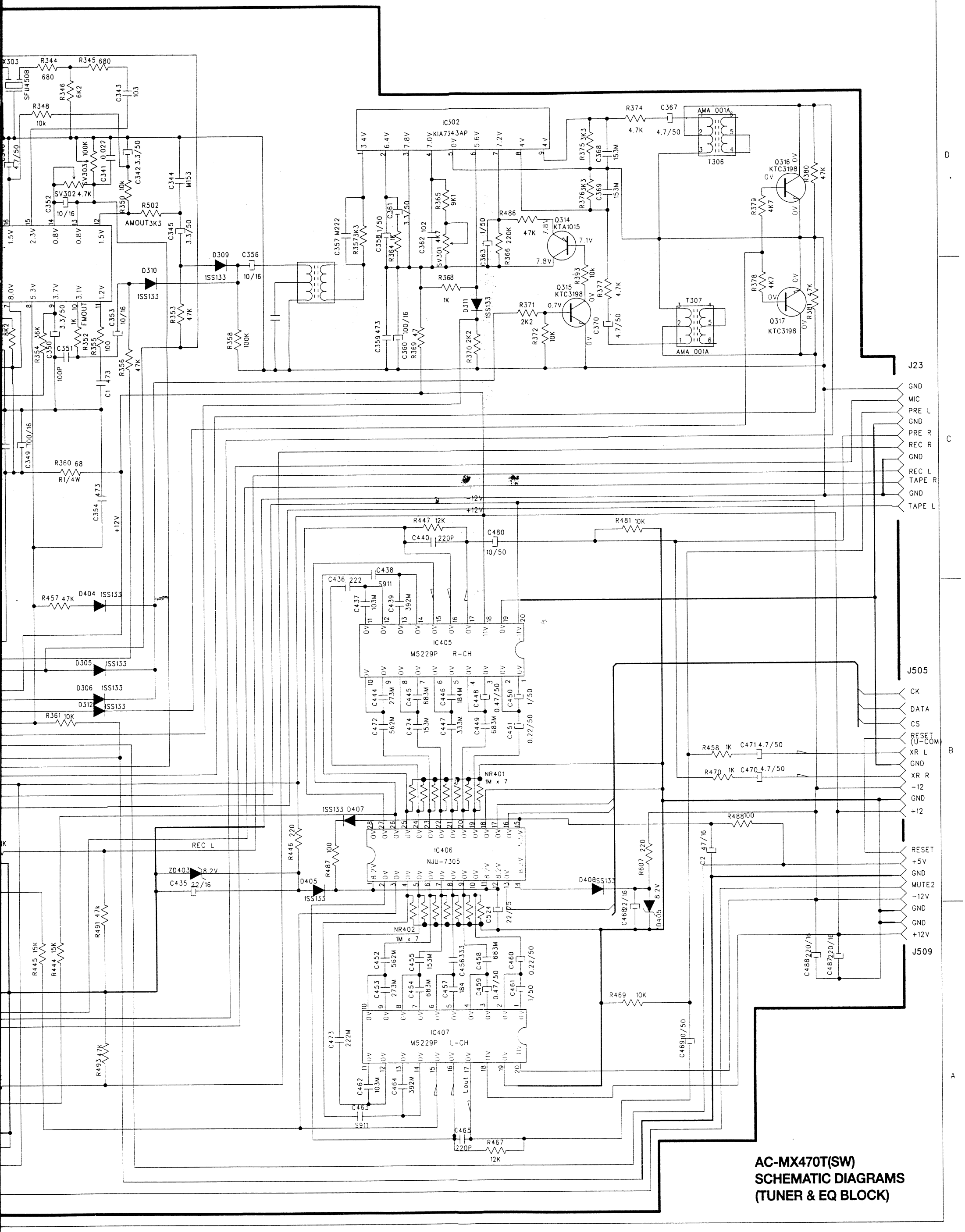
	EXCLUDE FTZ	FTZ
R406.R414 R415.R416	5.6K	15K
R421.R422	5.6K	33K
R425.R426	47K	1K
R431.R444	18K	12K
R432.R443	33K	56K

"*" S ARE FTZ ONLY

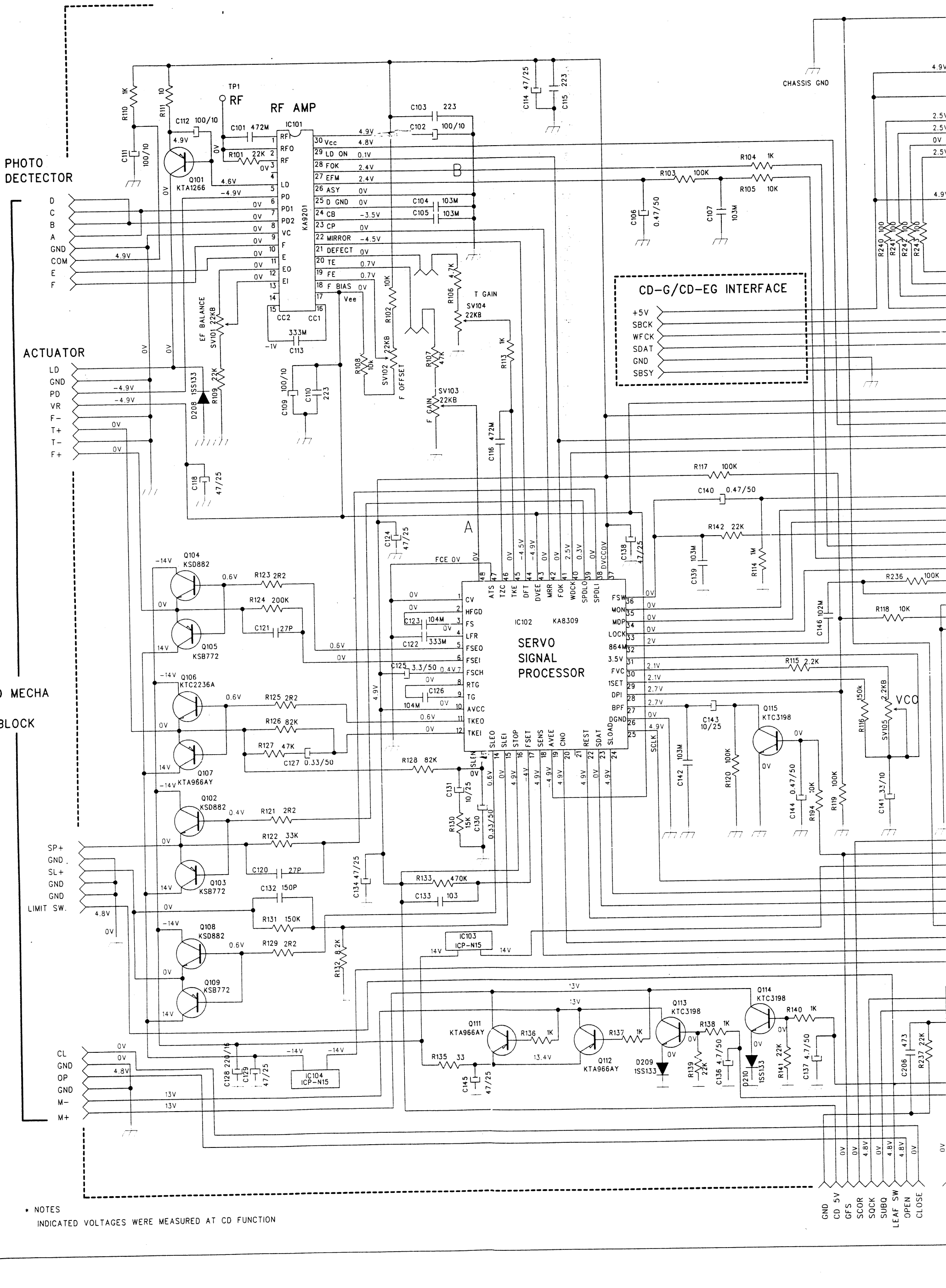
AC-MX470T
SCHEMATIC DIAGRAMS
(TUNER & EQ)

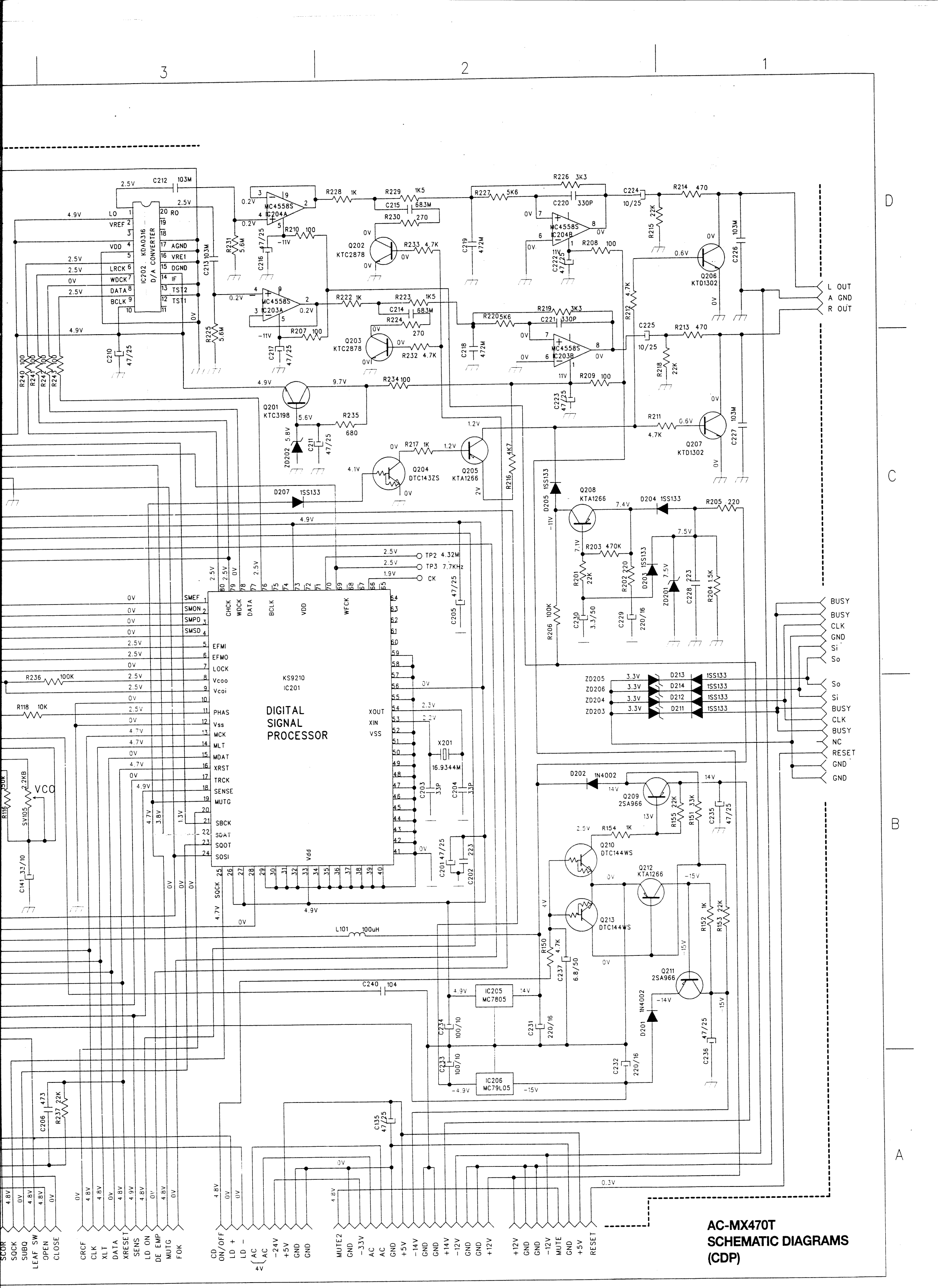
III. AC-MX470T(SW) SCHEMATIC DIAGRAMS (TUNER & EQ BLOCK)

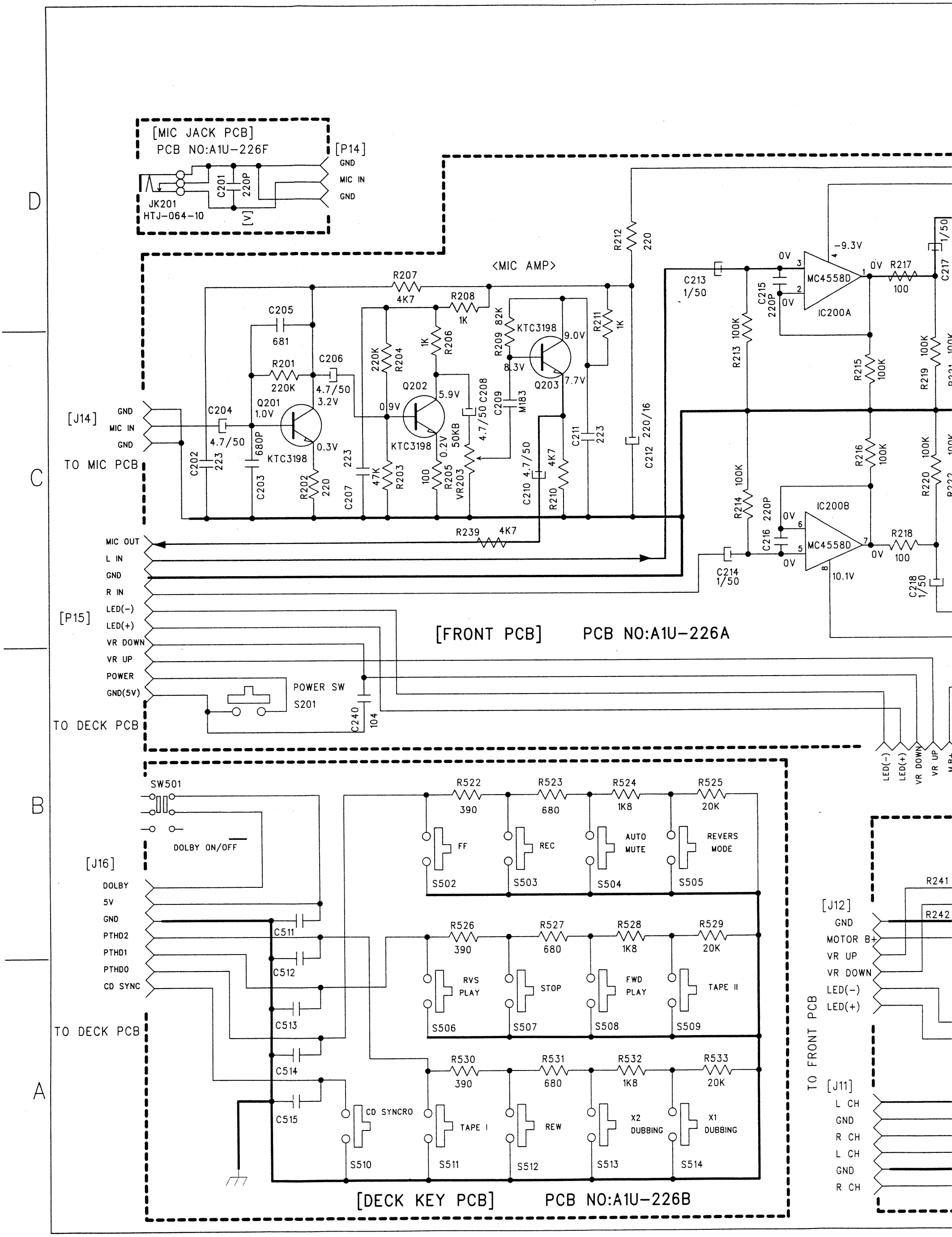


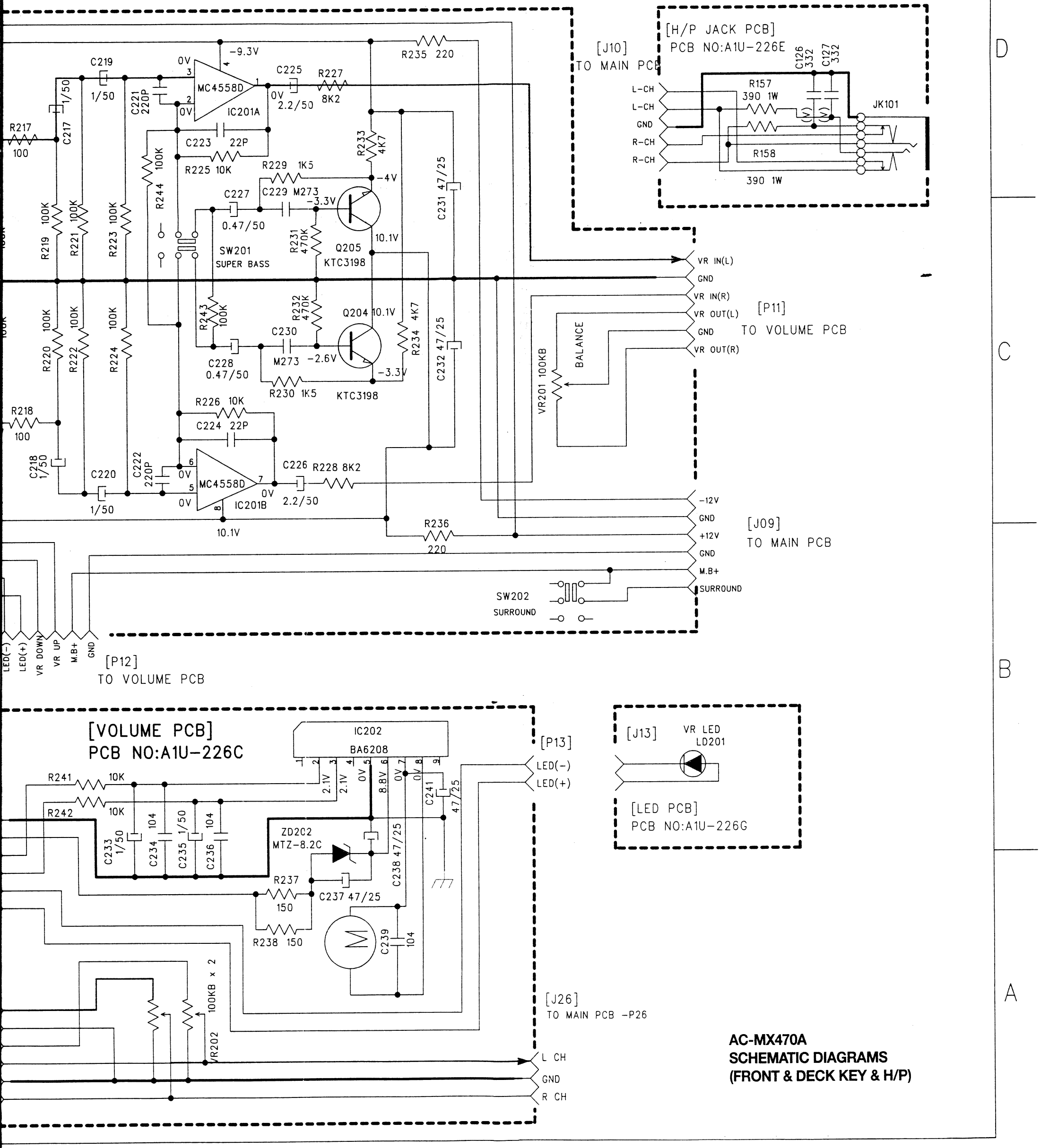

IC302
KIA7343AP
3.4V
6.4V
7.8V
7.0V
0V
5.6V
7.2V
4V
4V
R344 680
R345 680
R346 6K2
R348 10k
C343 103
SFU450B
X303
R374 4.7K
C367 4.7/50
AMA 001A
T306
R375 3K3
R376 3K3
C368 153M
C369 153M
Q316 KTC3198
Q317 KTC3198
R379 4K7
R380 47K
R378 4K7
R381 47K
R486 47K
Q314 KTA1015
R393 10k
R377 4.7K
Q315 KTC3198
R371 2K2
R372 10K
C370 4.7/50
T307
AMA 001A
R365 9K1
R366 220K
C363 1/50
C361 3.3/50
C362 102
SV301 4K7
C357 M222
R357 3K3
C358 1/50
R364 1K
C359 473
C360 100/16
R369 47
R358 100K
R368 1K
D311 1SS133
R370 2K2
D309 1SS133
C356 10/16
D310 1SS133
R353 47K
C353 10/16
R352 1K FMOUT
R355 100
R354 36K
C350 3.3/50
C351 100P
R356 47K
C1 473
C349 100/16
R360 68 R1/4W
C354 473
+12V
SV303 100K
C341 0.022
C342 3.3/50
SV302 4.7K
C352 10/16
R350 10k
R502 AMOUT3K3
C344 M153
C345 3.3/50
C340 4.7/50
R340 8K2
1.5V
2.3V
0.8V
0.8V
1.5V
8.0V
5.3V
3.7V
3.1V
1.2V
J23
GND
MIC
PRE L
GND
PRE R
REC R
GND
REC L
TAPE R
GND
TAPE L
-12V
+12V
R447 12K
C440 220P
C480 10/50
R481 10K
C438
C436 222
S911
C437 103M
C439 392M
IC405
M5229P R-CH
C444 273M
C445 683M
C446 184M
C448 0.47/50
C450 1/50
C472 562M
C474 153M
C447 333M
C449 683M
C451 0.22/50
R457 47K
D404 1SS133
D305 1SS133
D306 1SS133
D312 1SS133
R361 10K
J505
CK
DATA
CS
RESET (U-COM)
XR L
GND
XR R
-12
GND
+12
R458 1K C471 4.7/50
R470 1K C470 4.7/50
NR401
1M x 7
1SS133 D407
IC406
NJU-7305
R446 220
R487 100
REC L
ZD403 8.2V
C435 22/16
D405 1SS133
D408 1SS133
R607 220
C462 22/16
D405 8.2V
C524 22/25
R488 100
C2 47/16
RESET
+5V
GND
MUTE2
-12V
GND
GND
+12V
J509
C488 220/16
C487 220/16
NR402
1M x 7
C452 562M
C455 153M
C456 333
C458 683M
C460 0.22/50
C453 273M
C454 683M
C457 184
C459 0.47/50
C461 1/50
IC407
M5229P L-CH
C473 222M
C462 103M
C464 392M
Lout
C463
S911
C465 220P
R467 12K
R469 10K
C469 10/50
R491 47k
R493 47K
R445 15K
R444 15K
AC-MX470T(SW)
SCHEMATIC DIAGRAMS
(TUNER & EQ BLOCK)

III. AC-MX470T SCHEMATIC DIAGRAMS (CDP)

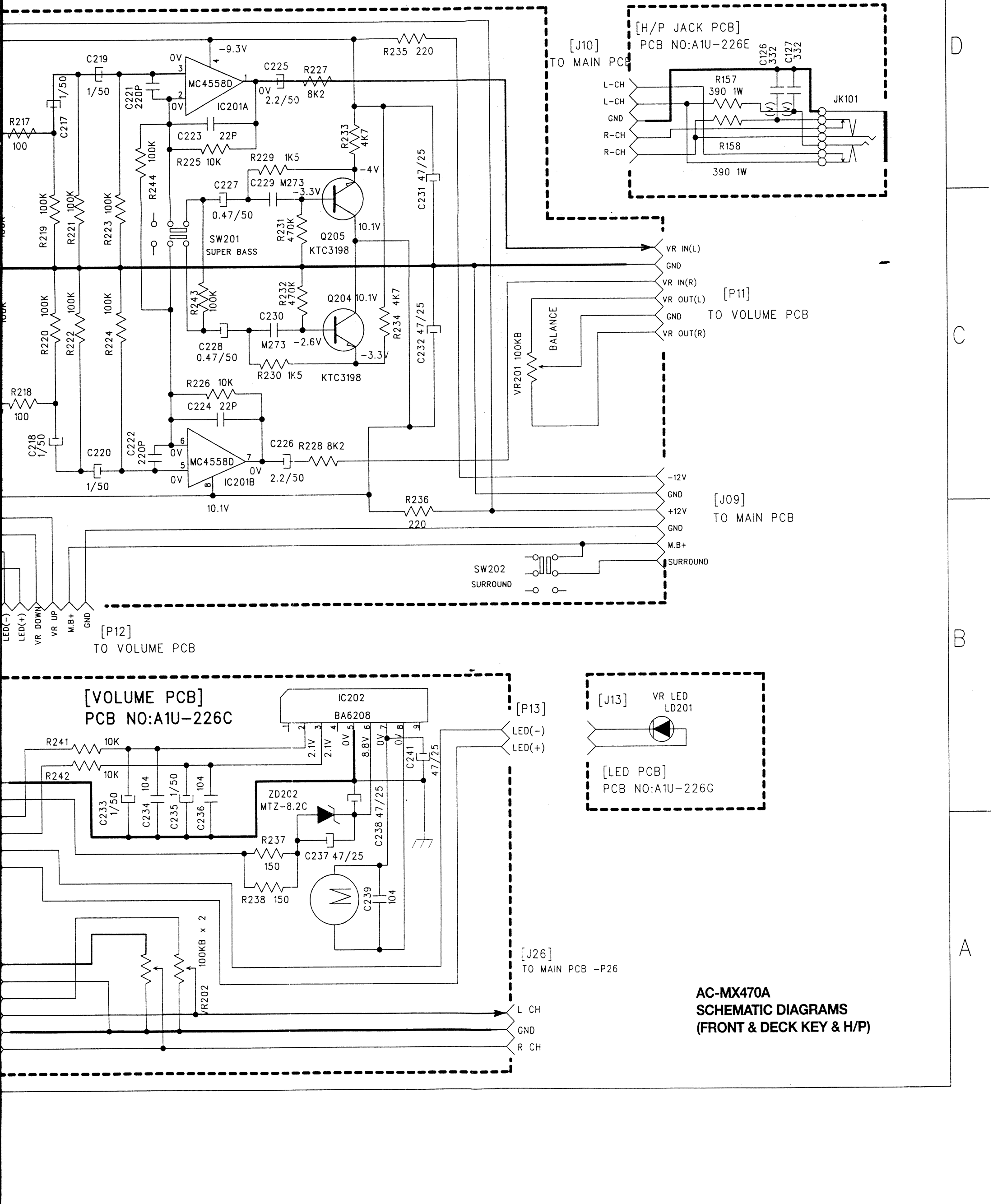



IC202 KDA0316 D/A CONVERTER
LO
RO
VREF
VDD
AGND
VRE1
DGND
IF
TST2
TST1
LRCK
WDCK
DATA
BCLK
IC204A MC4558S
IC204B MC4558S
IC203A MC4558S
IC203B MC4558S
Q202 KTC2878
Q203 KTC2878
Q201 KTC3198
Q204 DTC143ZS
Q205 KTA1266
Q206 KTD1302
Q207 KTD1302
Q208 KTA1266
Q209 2SA966
Q210 DTC144WS
Q211 2SA966
Q212 KTA1266
Q213 DTC144WS
ZD202 5.8V
D207 1SS133
D205 1SS133
D204 1SS133
D203 1SS133
D213 1SS133
D214 1SS133
D212 1SS133
D211 1SS133
ZD205 3.3V
ZD206 3.3V
ZD204 3.3V
ZD203 3.3V
ZD201 7.5V
D202 1N4002
D201 1N4002
L OUT
A GND
R OUT
BUSY
CLK
GND
Si
So
NC
RESET
KS9210
IC201
DIGITAL SIGNAL PROCESSOR
SMEF
SMON
SMPD
SMSD
EFMI
EFMO
LOCK
Vcoo
Vcoi
PHAS
Vss
MCK
MLT
MDAT
XRST
TRCK
SENSE
MUTG
SBCK
SDAT
SQOT
SOSI
SQCK
CHCK
WDCK
DATA
BCLK
VDD
WFCK
XOUT
XIN
VSS
X201 16.9344M
TP2 4.32M
TP3 7.7KHz
CK
IC205 MC7805
IC206 MC79L05
VCO
SV105
L101 100uH
C212 103M
C213 103M
C214 683M
C215 683M
C216 47/25
C217 47/25
C218 472M
C219 472M
C220 330P
C221 330P
C222 47/25
C223 47/25
C224 10/25
C225 10/25
C226 103M
C227 103M
C228 223
C229 220/16
C230 3.3/50
C231 220/16
C232 220/16
C233 100/10
C234 100/10
C235 47/25
C236 47/25
C237 6.8/50
C240 104
R226 3K3
R227 5K6
R228 1K
R229 1K5
R230 270
R231 5.6M
R232 4.7K
R233 4.7K
R234 100
R235 680
R236 100K
R237 22K
R240 100
R241 100
R242 100
R243 100
R150 4.7K
R151 33K
R152 1K
R153 22K
R154 1K
R155 22K
R201 22K
R202 220
R203 470K
R204 1.5K
R205 220
R206 100K
R207 100
R208 100
R209 100
R210 100
R211 4.7K
R212 4.7K
R213 470
R214 470
R215 22K
R216 4K7
R217 1K
R218 22K
R219 3K3
R220 5K6
R222 1K
R223 1K5
R224 270
R225 5.6M
TP1 50K
R116 2.2KB
R118 10K
C141 33/10
C205 47/25
C206 473
C210 47/25
C211 47/25
C135 47/25
C201 47/25
C202 223
C203 33P
C204 33P
L OUT
A GND
R OUT
BUSY
BUSY
CLK
GND
Si
So
So
Si
BUSY
CLK
BUSY
NC
RESET
GND
GND
SCOR
SQCK
SUBQ
LEAF SW
OPEN
CLOSE
CRCF
CLK
XLT
DATA
XRESET
SENS
LD ON
DE EMP
MUTG
FOK
CD ON/OFF
LD +
LD -
AC
AC
4V
-24V
+5V
GND
GND
MUTE2
GND
-33V
AC
AC
GND
+5V
-14V
GND
GND
+14V
-12V
GND
GND
+12V
+12V
GND
GND
-12V
MUTE
GND
+5V
RESET
0.3V
AC-MX470T
SCHEMATIC DIAGRAMS
(CDP)


[MIC JACK PCB]
PCB NO:A1U-226F
[P14]
GND
MIC IN
GND
JK201
HTJ-064-10
C201
220P
[V]
<MIC AMP>
R207
4K7
R208
1K
R212
220
C205
681
R201
220K
C206
4.7/50
3.2V
Q201
1.0V
KTC3198
0.3V
C204
4.7/50
680P
C202
223
C203
R202
220
C207
223
47K
R203
0.9V
Q202
5.9V
KTC3198
0.2V
100
R205
50KB
VR203
4.7/50
C208
C209
M183
220K
R204
1K
R206
R209 82K
KTC3198
9.0V
8.3V
Q203
7.7V
R211
1K
C210 4.7/50
4K7
R210
C211
223
C212 220/16
[J14]
GND
MIC IN
GND
TO MIC PCB
R239 4K7
C213
1/50
R213 100K
C215
220P
0V
3
2
MC4558D
IC200A
1
4
-9.3V
0V
0V R217
100
C217
1/50
R215
100K
R219 100K
R214 100K
R216
100K
R220 100K
C216 220P
IC200B
0V
6
5
MC4558D
7
0V
R218
100
0V
8
10.1V
C214
1/50
C218
1/50
MIC OUT
L IN
GND
R IN
LED(-)
LED(+)
VR DOWN
VR UP
POWER
GND(5V)
[P15]
TO DECK PCB
POWER SW
S201
C240
104
[FRONT PCB] PCB NO:A1U-226A
LED(-)
LED(+)
VR DOWN
VR UP
SW501
DOLBY ON/OFF
[J16]
DOLBY
5V
GND
PTHD2
PTHD1
PTHD0
CD SYNC
TO DECK PCB
C511
C512
C513
C514
C515
R522
390
R523
680
R524
1K8
R525
20K
FF
REC
AUTO
MUTE
REVERS
MODE
S502
S503
S504
S505
R526
390
R527
680
R528
1K8
R529
20K
RVS
PLAY
STOP
FWD
PLAY
TAPE II
S506
S507
S508
S509
R530
390
R531
680
R532
1K8
R533
20K
CD SYNCRO
TAPE I
REW
X2
DUBBING
X1
DUBBING
S510
S511
S512
S513
S514
[DECK KEY PCB] PCB NO:A1U-226B
R241
R242
[J12]
GND
MOTOR B+
VR UP
VR DOWN
LED(-)
LED(+)
TO FRONT PCB
[J11]
L CH
GND
R CH
L CH
GND
R CH

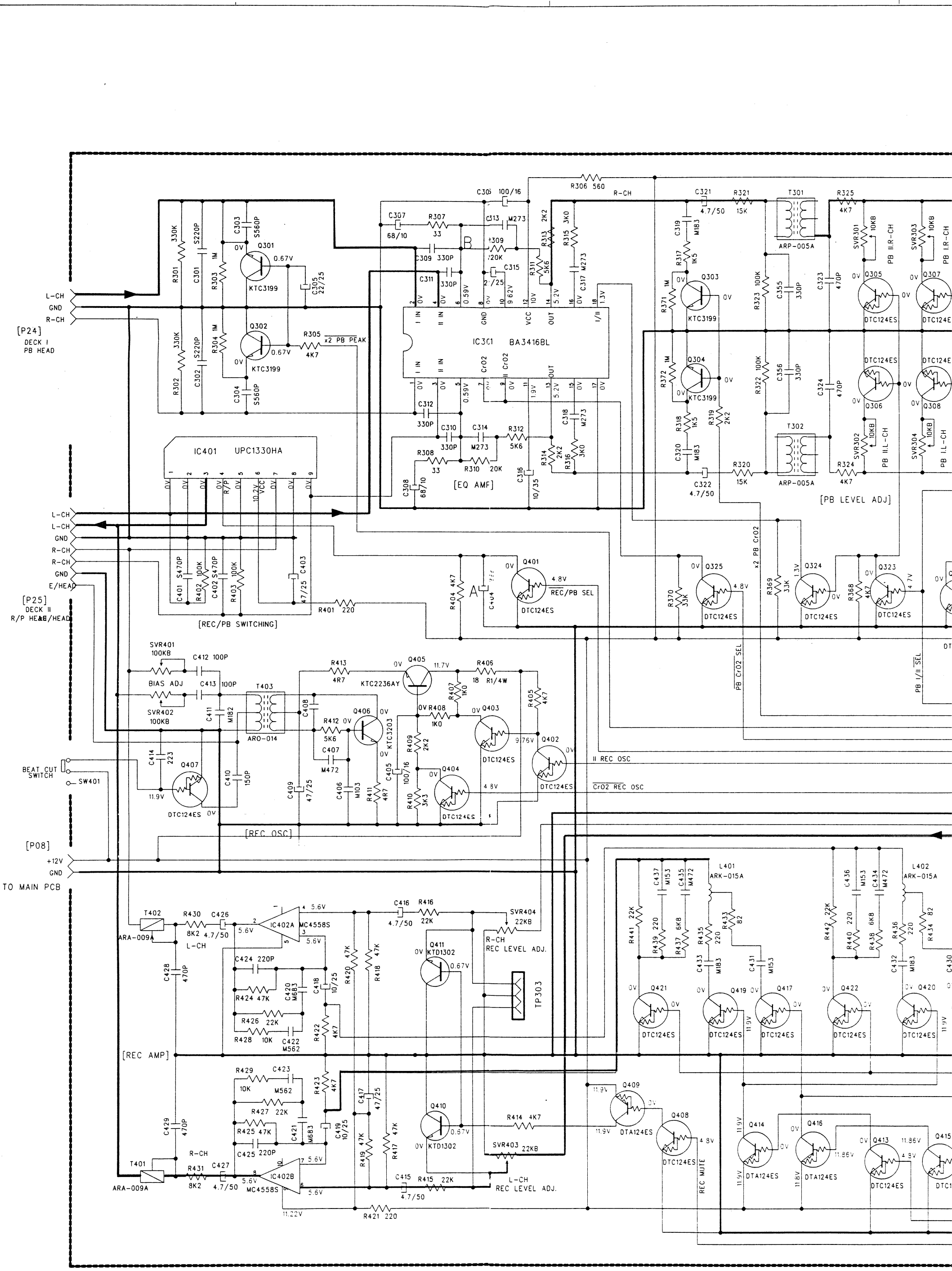


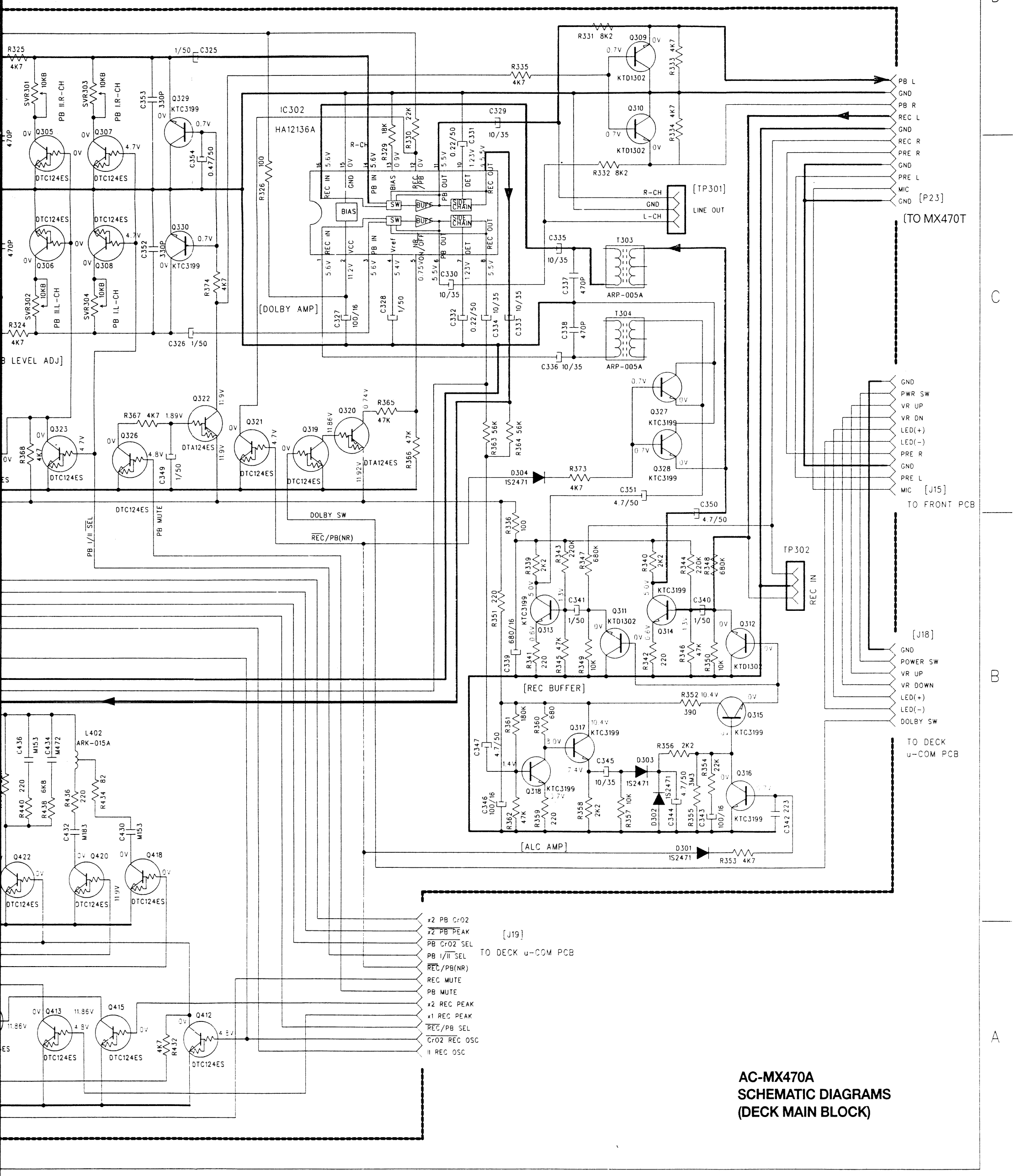
AC-MX470A
SCHEMATIC DIAGRAMS
(FRONT & DECK KEY & H/P)



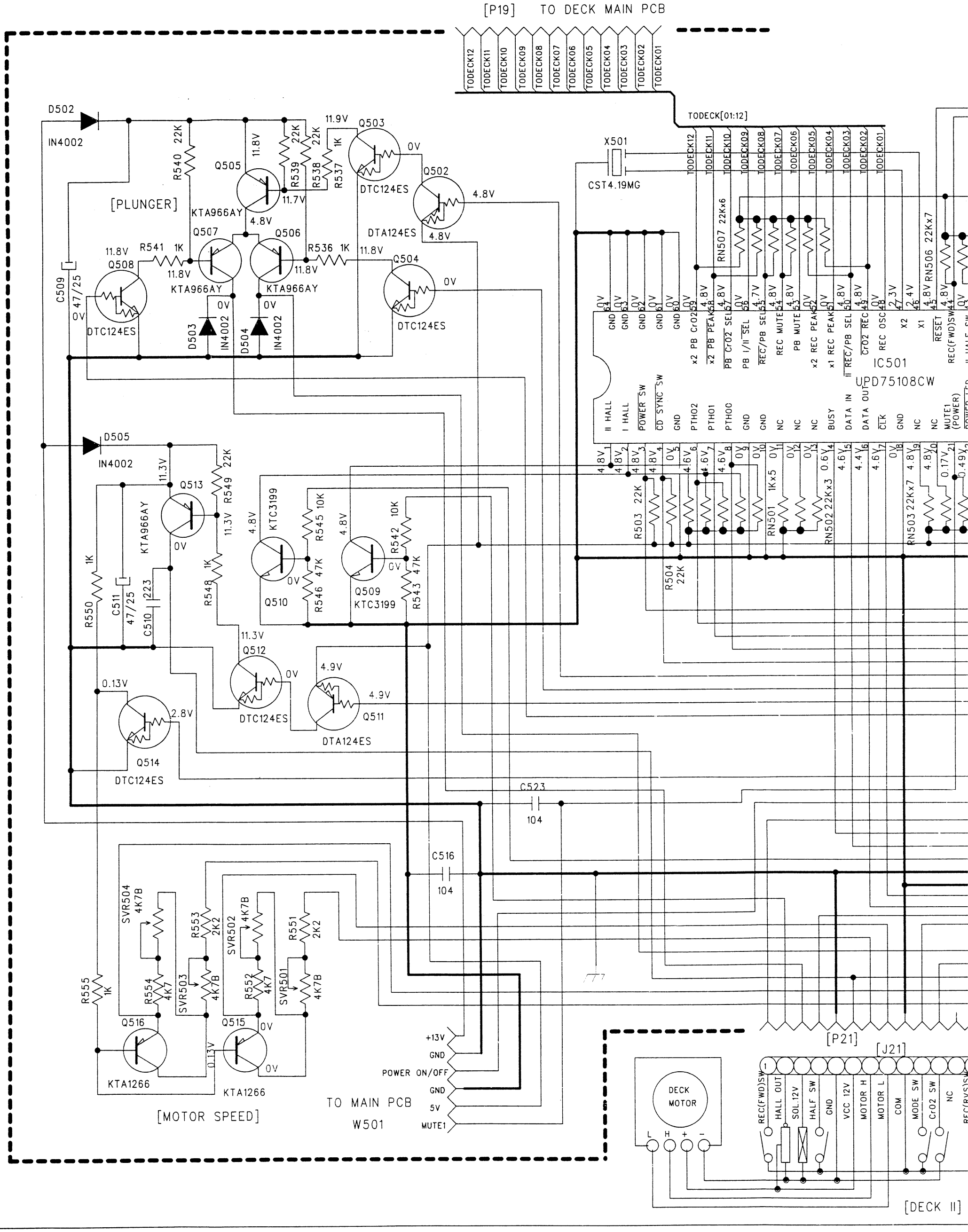
AC-MX470A
SCHEMATIC DIAGRAMS
(FRONT & DECK KEY & H/P)

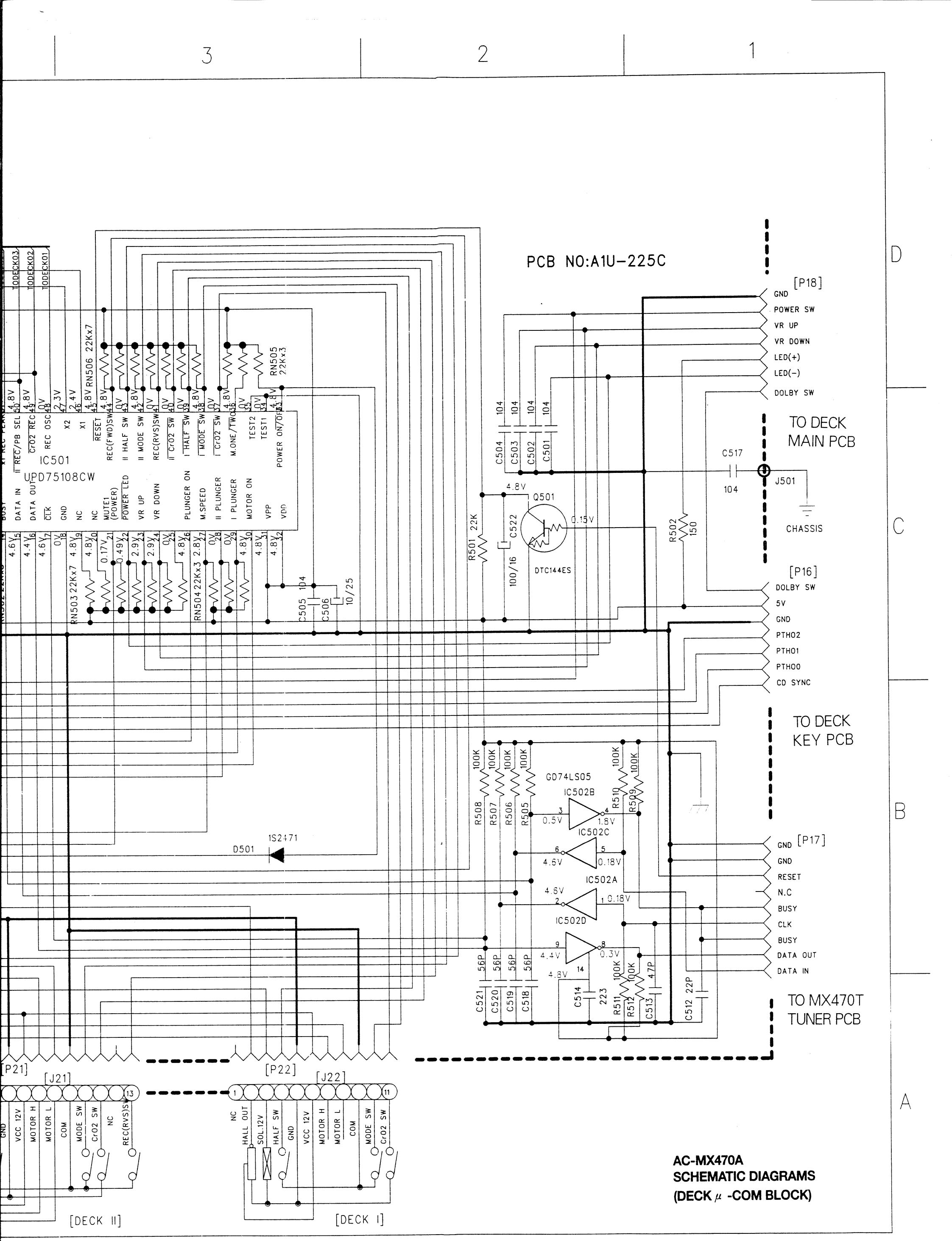
III. AC-MX470A SCHEMATIC DIAGRAMS (DECK MAIN BLOCK)



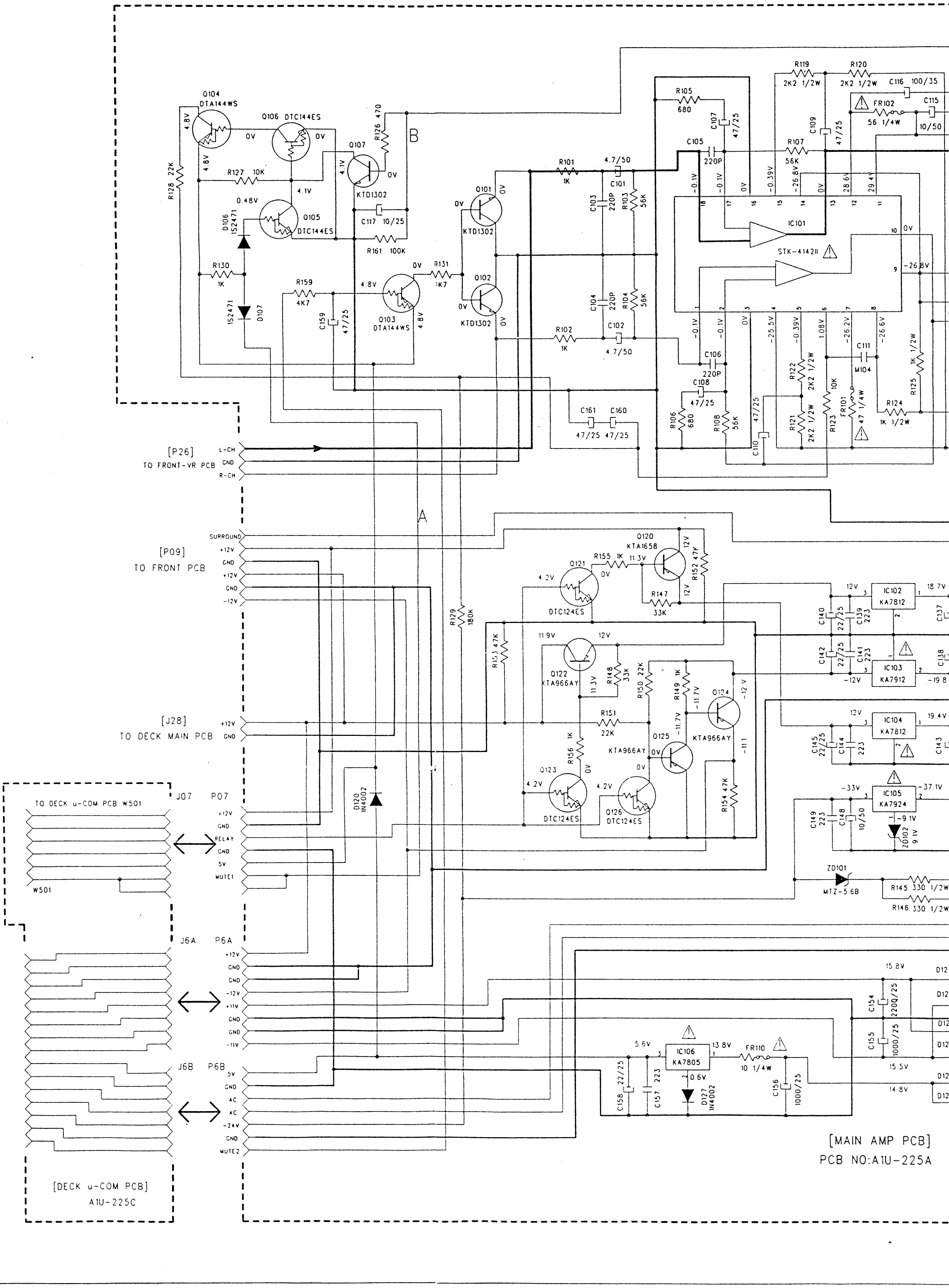


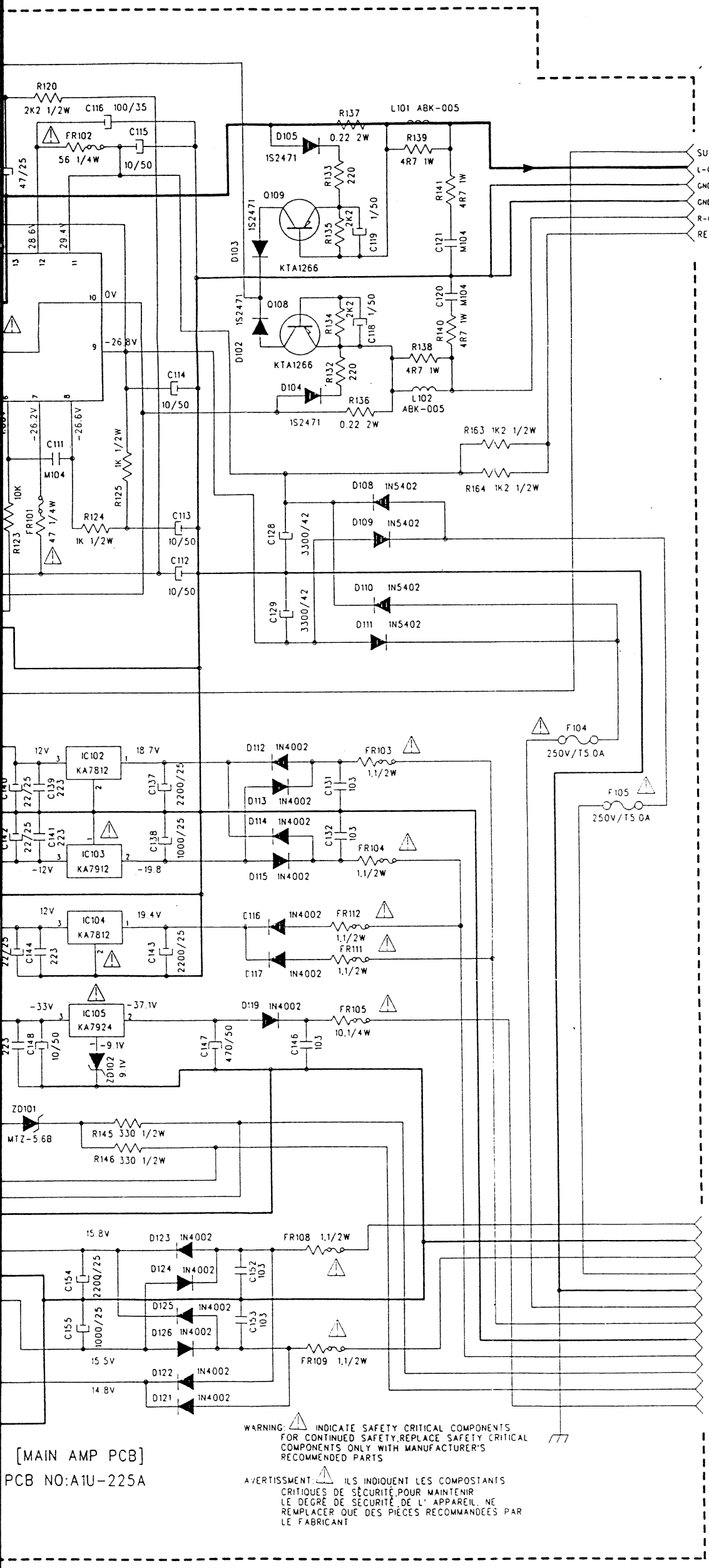
AC-MX470A
SCHEMATIC DIAGRAMS
(DECK MAIN BLOCK)


[P19] TO DECK MAIN PCB
TODECK12
TODECK11
TODECK10
TODECK09
TODECK08
TODECK07
TODECK06
TODECK05
TODECK04
TODECK03
TODECK02
TODECK01
TODECK[01:12]
D502
IN4002
R540 22K
Q505
11.8V
R539 22K
R538 22K
R537 1K
11.9V
Q503
0V
DTC124ES
Q502
4.8V
DTA124ES
4.8V
[PLUNGER]
KTA966AY
11.7V
4.8V
Q507
Q506
R541 1K
11.8V
R536 1K
11.8V
Q508
11.8V
11.8V
KTA966AY
KTA966AY
Q504
0V
C509
47/25
0V
DTC124ES
D503
IN4002
0V
D504
IN4002
0V
DTC124ES
X501
CST4.19MG
RN507 22Kx6
RN506 22Kx7
IC501
UPD75108CW
x2 PB CrO2
x2 PB PEAK
PB CrO2 SEL
PB I/II SEL
REC/PB SEL
REC MUTE
PB MUTE
x2 REC PEAK
x1 REC PEAK
II REC/PB SEL
CrO2 REC
REC OSC
x2
x1
RESET
REC(FWD)SW
II HALL
I HALL
POWER SW
CD SYNC SW
GND
PTH02
PTH01
PTH00
BUSY
DATA IN
DATA OUT
CLK
NC
MUTE1 (POWER)
D505
IN4002
11.3V
Q513
KTA966AY
0V
22K R549
11.3V
1K R550
C511 47/25
C510 223
1K R548
4.8V
KTC3199
Q510
R545 10K
R546 47K
4.8V
Q509
KTC3199
R542 10K
R543 47K
0V
R503 22K
R504 22K
RN501 1Kx5
RN502 22Kx3
RN503 22Kx7
11.3V
Q512
0V
DTC124ES
4.9V
Q511
4.9V
DTA124ES
0.13V
2.8V
Q514
DTC124ES
C523
104
C516
104
SVR504 4K7B
R553 2K2
SVR502 4K7B
R551 2K2
R555 1K
R554 4K7
SVR503 4K7B
R552 4K7
SVR501 4K7B
Q516
Q515
0V
0.13V
0V
KTA1266
KTA1266
[MOTOR SPEED]
TO MAIN PCB
W501
+13V
GND
POWER ON/OFF
GND
5V
MUTE1
[P21]
[J21]
DECK MOTOR
L H + -
REC(FWD)SW
HALL OUT
SOL.12V
HALF SW
GND
VCC 12V
MOTOR H
MOTOR L
COM
MODE SW
CrO2 SW
NC
[DECK II]


PCB NO:A1U-225C
IC501
UPD75108CW
RN506 22Kx7
RN505 22Kx3
RN503 22Kx7
RN504 22Kx3
[P18]
GND
POWER SW
VR UP
VR DOWN
LED(+)
LED(-)
DOLBY SW
TO DECK MAIN PCB
C517
104
J501
CHASSIS
Q501
DTC144ES
R501 22K
C522
100/16
R502 150
[P16]
DOLBY SW
5V
GND
PTHO2
PTHO1
PTHO0
CD SYNC
TO DECK KEY PCB
GD74LS05
IC502B
IC502C
IC502A
IC502D
R508 100K
R507 100K
R506 100K
R505 100K
R510 100K
R509 100K
D501
1S2471
[P17]
GND
GND
RESET
N.C
BUSY
CLK
BUSY
DATA OUT
DATA IN
C521 56P
C520 56P
C519 56P
C518 56P
C514 223
R511 100K
R512 100K
C513 47P
C512 22P
TO MX470T TUNER PCB
[P21]
[J21]
[P22]
[J22]
[DECK II]
[DECK I]
AC-MX470A
SCHEMATIC DIAGRAMS
(DECK μ -COM BLOCK)

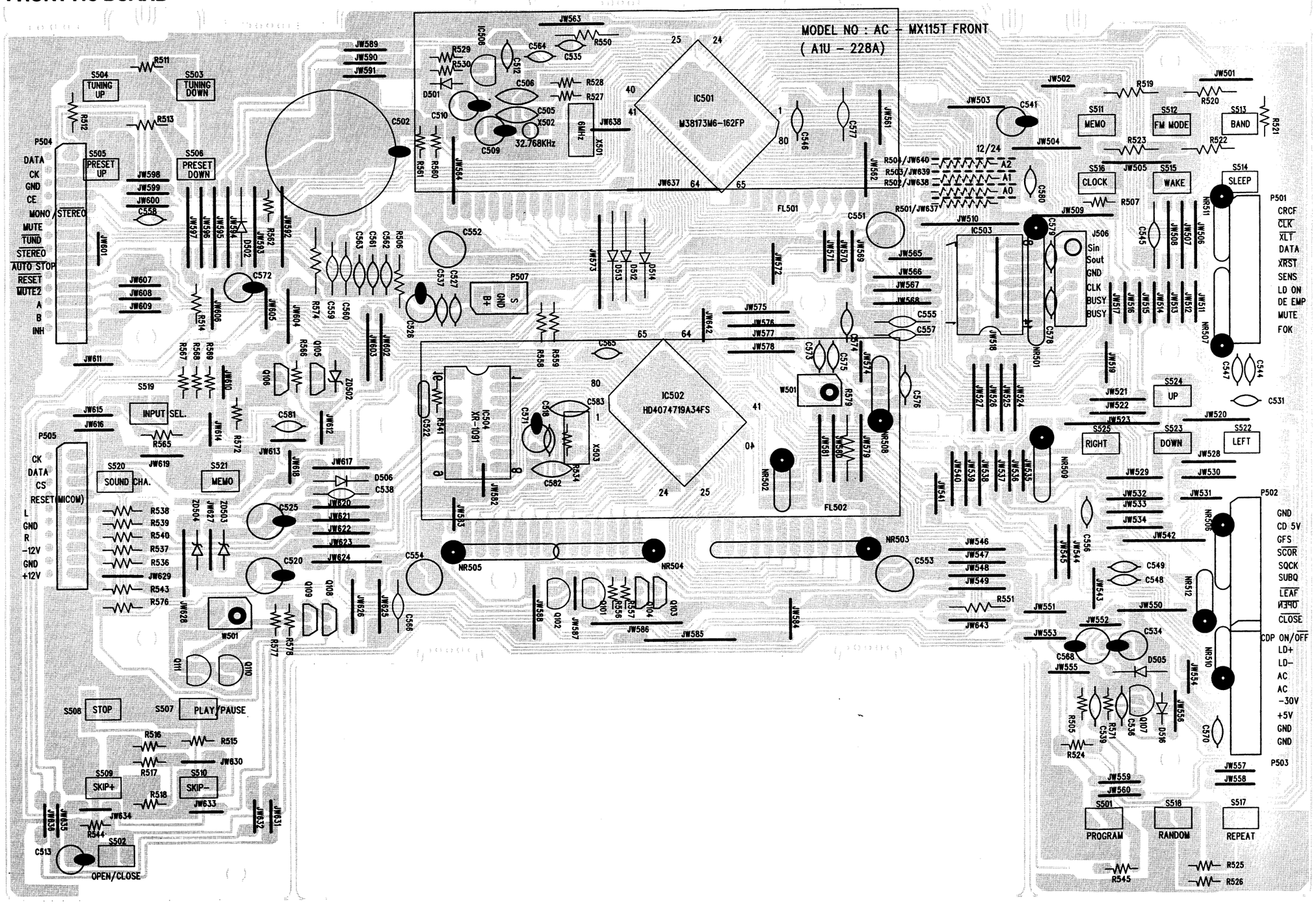
III. AC-MX470A SCHEMATIC DIAGRAMS (MAIN BLOCK)

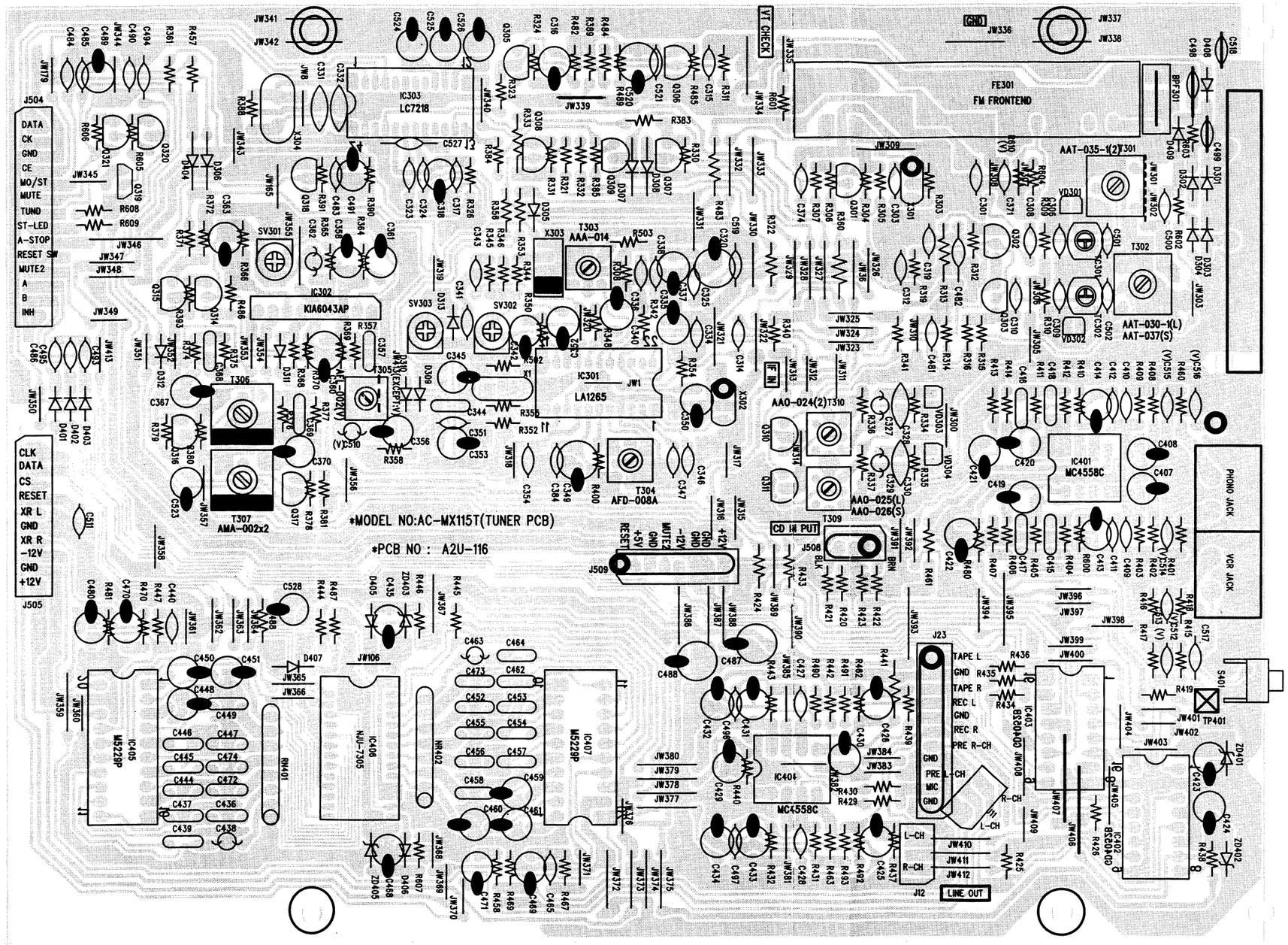




AC-MX470A
SCHEMATIC DIAGRAMS
(MAIN BLOCK)

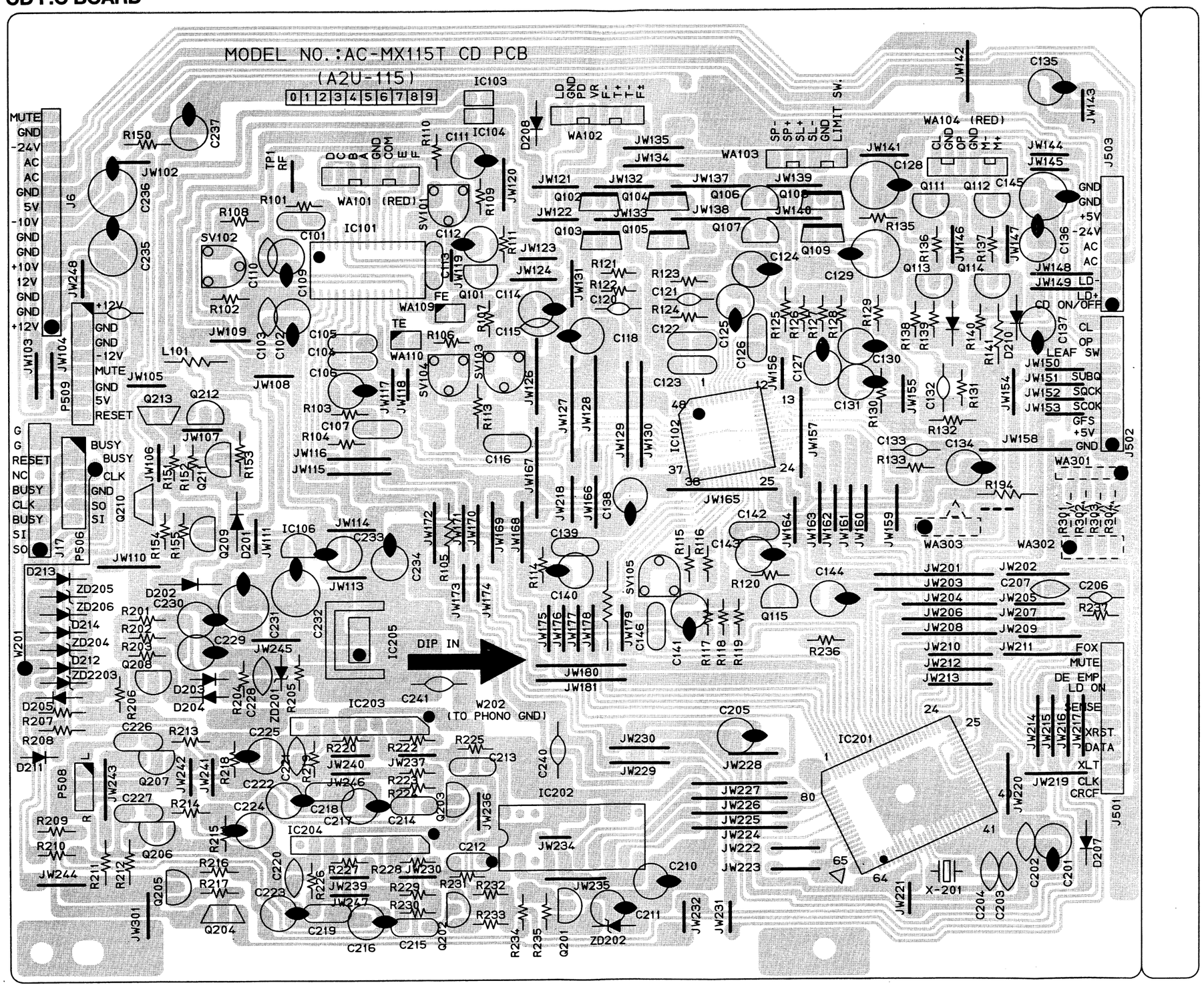
FRONT P.C BOARD



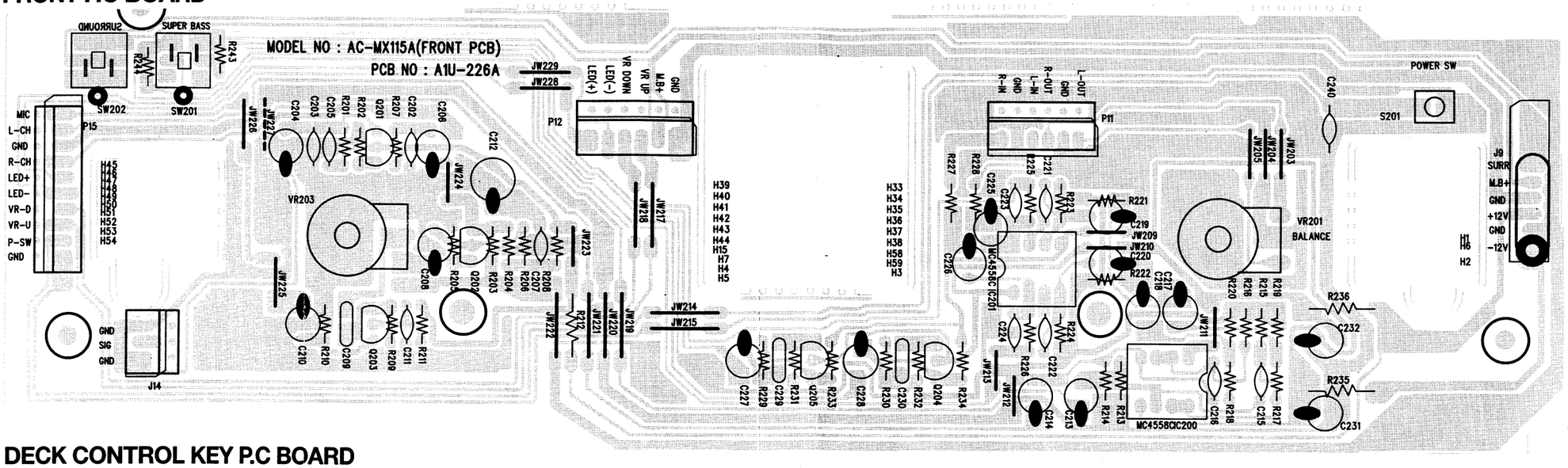


BAND	LW	2B	2B	2B	SW	SW	SW	2B
LOC.NO	E,B	S	VI	VG	U	Y1	Y7	K
D408	JUMP	JUMP	JUMP	JUMP	0	0	0	JUMP
C498	JUMP	JUMP	JUMP	JUMP	0	0	0	JUMP
JW304			0					
C499	JUMP	JUMP	JUMP	JUMP	0	0	0	JUMP
R603	×	×	×	×	0	0	0	×
D409	×	×	×	×	0	0	0	
JW301	×	0	0	0	0	0	0	0
JW302	0	×	×	×	×	×	×	×
R602	×	×	×	×	0	0	0	×
C500	×	×	×	×	0	0	0	×
JW303	×	×	×	×	0	0	0	×
R601	×	×	×	×	0	0	0	×
T302	030-1	×	×	×	037	037	037	×
TC302	0	×	×	×	0	0	0	×
VD302	0	×	×	×	0	0	0	×
C309	0	×	×	×	0	0	0	×
R310.	0	×	×	×	0	0	0	×
C310	0	×	×	×	0	0	0	×
Q303	0	×	×	×	0	0	0	×
R315	0	×	×	×	0	0	0	×
R316	0	×	×	×	0	0	0	×
C481	0	×	×	×	0	0	0	×
VD304	0	×	×	×	0	0	0	×
R335	0	×	×	×	0	0	0	×
C330	0	×	×	×	0	0	0	×
C329	0	×	×	×	0	0	0	×
R337	0	×	×	×	0	0	0	×
T309	025	×	×	×	026	026	026	×
Q311	0	×	×	×	0	0	0	×
R340	0	×	×	×	0	0	0	×
R330	0	×	×	×	0	0	0	×
R383	0	×	×	×	0	0	0	×
Q307	0	×	×	×	0	0	0	×
D308	0	×	×	×	0	0	0	×
C510	×	×	0	0	×	×	×	×
T305	×	×	0	0	×	×	×	×
C516	×	×	0	0	×	×	×	×
C515	×	×	0	0	×	×	×	×
C514	×	×	0	0	×	×	×	×
C513	×	×	0	0	×	×	×	×
C512	×	×	0	0	×	×	×	×
C517	×	×	0	0	×	×	×	×
X1	0	473	473	473	473	473	473	473
FE101	3G	3G	3G	4G	3G	3G	3G	3G
R604	×	×	×	100K	×	×	×	×
JW307	0	0	0	10K	0	0	0	0
R406	5K6	5K6	5K6	15K	5K6	5K6	5K6	5K6
R414	5K6	5K6	5K6	15K	5K6	5K6	5K6	5K6
R415	5K6	5K6	5K6	15K	5K6	5K6	5K6	5K6
R416	5K6	5K6	5K6	15K	5K6	5K6	5K6	5K6
R421	15K	15K	15K	33K	15K	15K	15K	15K
R422	15K	15K	15K	33K	15K	15K	15K	15K
R425	4K7	4K7	4K7	1K	4K7	4K7	4K7	4K7
R426	4K7	4K7	4K7	1K	4K7	4K7	4K7	4K7
R431	18K	18K	18K	12K	18K	18K	18K	18K
R442	18K	18K	18K	12K	18K	18K	18K	18K
R432	33K	33K	33K	56K	33K	33K	33K	33K
R443	33K	33K	33K	56K	33K	33K	33K	33K

CD P.C BOARD


MODEL NO.:AC-MX115T CD PCB
(A2U-115)
0 1 2 3 4 5 6 7 8 9
MUTE
GND
-24V
AC
AC
GND
5V
-10V
GND
GND
+10V
12V
GND
GND
+12V
J6
P509
JW103
JW104
JW248
+12V
GND
GND
-12V
MUTE
GND
5V
RESET
JW105
Q212
Q213
JW107
JW106
R151
R152
R153
Q211
Q210
BUSY
BUSY
CLK
GND
SO
SI
RESET
NC
BUSY
CLK
BUSY
SI
SO
J17
P506
R154
R155
Q209
D201
JW111
JW110
D213
ZD205
ZD206
D214
ZD204
D212
ZD2203
D205
R207
R208
D211
W201
P508
JW243
JW242
JW241
R218
Q207
C227
R214
R209
R210
JW244
R211
R212
Q206
R216
R217
Q204
JW301
Q205
C220
C223
R226
R227
R228
JW230
JW239
JW247
R229
R230
C219
C216
C215
Q202
R234
R235
Q201
ZD202
C211
JW232
JW231
C210
JW235
JW234
C212
R231
R232
R233
C116
JW167
JW218
JW166
C138
C139
C140
JW175
JW176
JW177
JW178
JW179
C146
SV105
C141
R114
R115
R116
R117
R118
R119
C142
C143
R120
Q115
JW164
JW163
JW162
JW161
JW160
JW159
R236
C144
JW180
JW181
DIP IN
W202
(TO PHONO GND)
C241
IC203
IC204
IC205
C240
JW230
JW229
JW228
C205
IC202
JW227
JW226
JW225
JW224
JW222
JW223
IC201
1
24
25
80
64
65
41
4
JW214
JW215
JW216
JW217
JW220
JW219
JW221
X-201
C204
C203
C202
C201
D207
J501
FOX
MUTE
DE EMP
LD ON
SENSE
XRST
DATA
XLT
CLK
CRCF
C206
R237
JW201
JW202
JW203
C207
JW204
JW205
JW206
JW207
JW208
JW209
JW210
JW211
JW212
JW213
C233
C234
JW172
JW171
JW170
JW169
JW168
R105
JW173
JW174
IC106
JW114
JW113
C232
C231
C230
JW245
R201
R202
R203
Q208
D202
D203
D204
R204
C228
ZD201
R205
R206
C226
R213
C225
R220
C221
R219
JW240
JW246
C222
C218
C217
C224
C214
Q203
JW236
R222
JW237
R225
C213
R223
R224
C229
C231
C232
C110
C109
C101
IC101
SV102
R102
R108
R101
TP1
RF
DCBAGNDCOMEF
WA101 (RED)
R110
C111
IC103
IC104
D208
WA102
LD
GND
PD
VR
F-
F+
T+
T-
F±
JW135
JW134
JW121
JW132
JW137
JW139
Q102
Q104
Q106
Q108
JW122
JW133
JW138
JW140
Q103
Q105
Q107
Q109
WA103
SP-
SP+
SL+
SL-
GND
LIMIT
SW.
JW142
C135
JW143
WA104 (RED)
CL
GND
OP
GND
M-
M+
JW141
C128
R135
Q111
Q112
C145
JW144
JW145
J503
GND
GND
+5V
-24V
AC
AC
LD-
LD+
CD ON/OFF
C136
JW146
JW147
R136
R137
Q113
Q114
JW148
JW149
C137
D210
R140
R141
CL
OP
LEAF SW
JW150
JW151 SUBQ
JW152 SQCK
JW153 SCOK
GFS
+5V
GND
J502
WA301
WA302
WA303
R194
R301
R302
R303
R304
C133
R133
C134
JW158
R132
JW155
C132
R131
JW154
C131
R130
C130
R129
R138
R139
C127
R125
R126
R127
R128
JW156
JW157
C124
C129
C125
C126
C121
R123
R124
C122
R121
R122
C120
C123
C102
C118
C115
C114
C113
C112
C111
C107
C108
C106
C105
C104
C103
C102
JW131
JW119
JW120
JW123
JW124
JW125
JW126
JW127
JW128
JW129
JW130
JW116
JW115
JW117
JW118
JW109
JW108
L101
WA109
WA110
FE
TE
Q101
R107
R106
SV101
SV104
SV103
R111
R112
R113
R109
R110
R104
R103
C117
C116
C115
C114
C113
C112
C111
C107
C108
C106
C105
C104
C103
C102
C101
C109
C110
C235
C236
C237
R150
JW102

FRONT P.C BOARD



DECK CONTROL KEY P.C BOARD

MOTOR VOLUME P.C BOARD

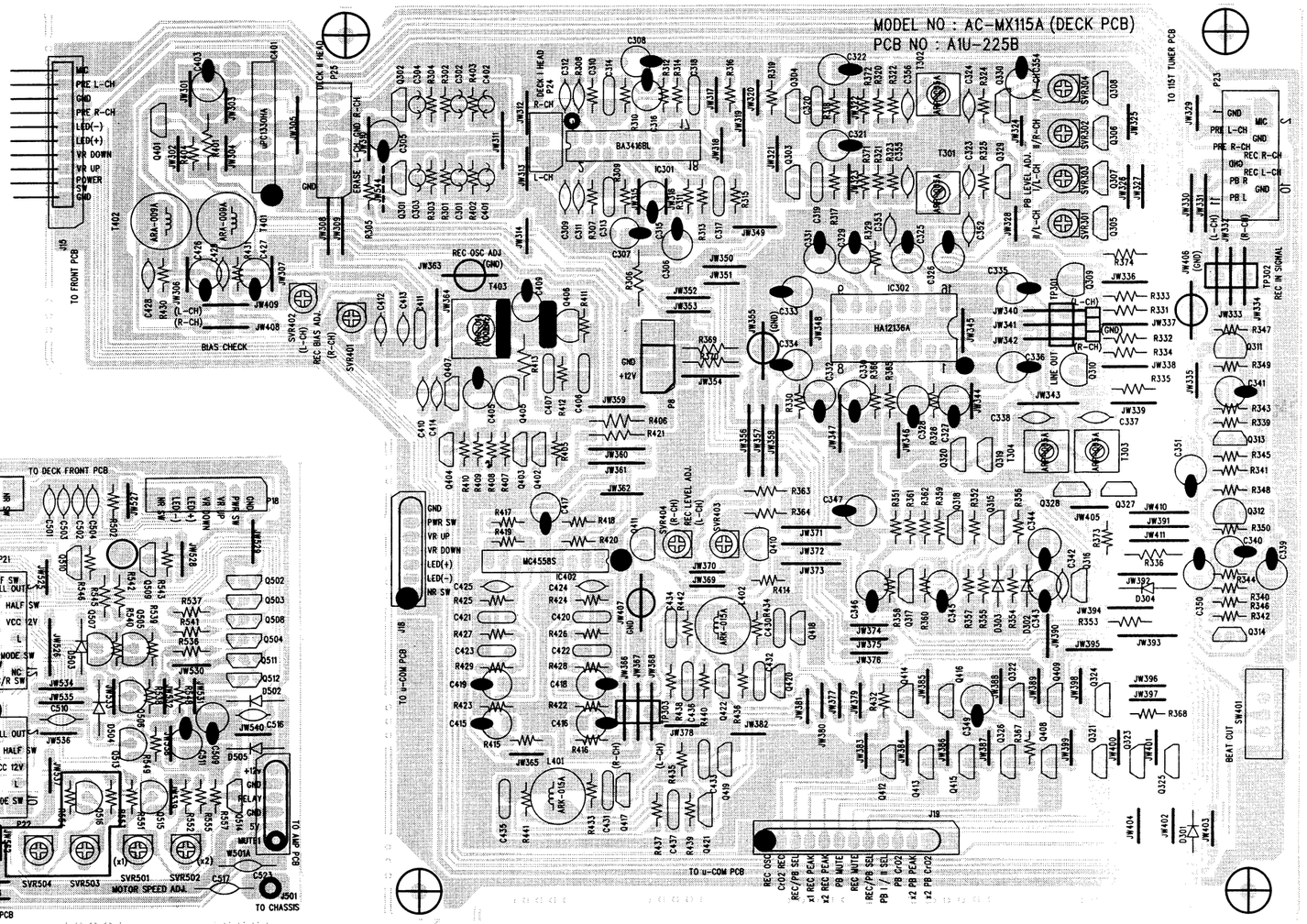
VOLTAGE SELECTOR P.C BOARD

PHONE P.C BOARD

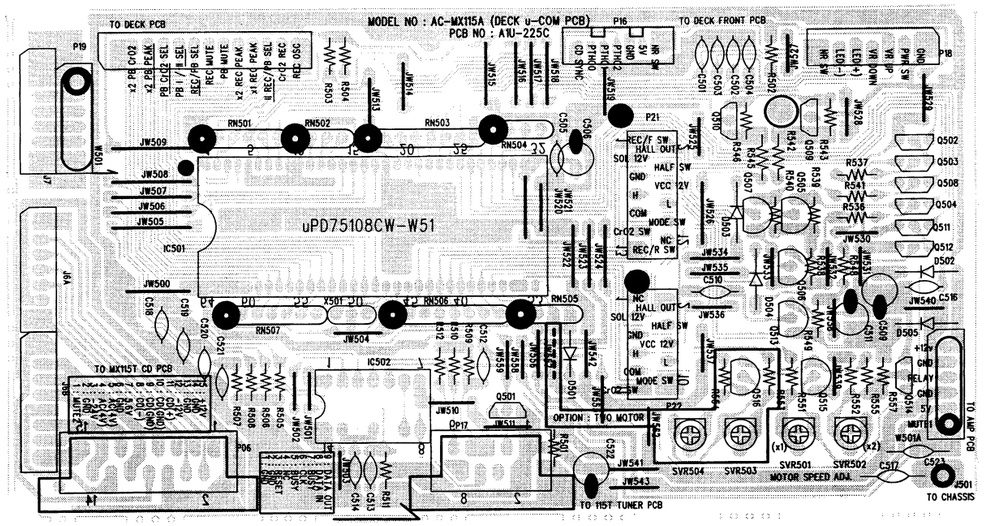
MIC TACK P.C BOARD

VOLUME LED P.C BOARD

DECK MAIN P.C BOARD

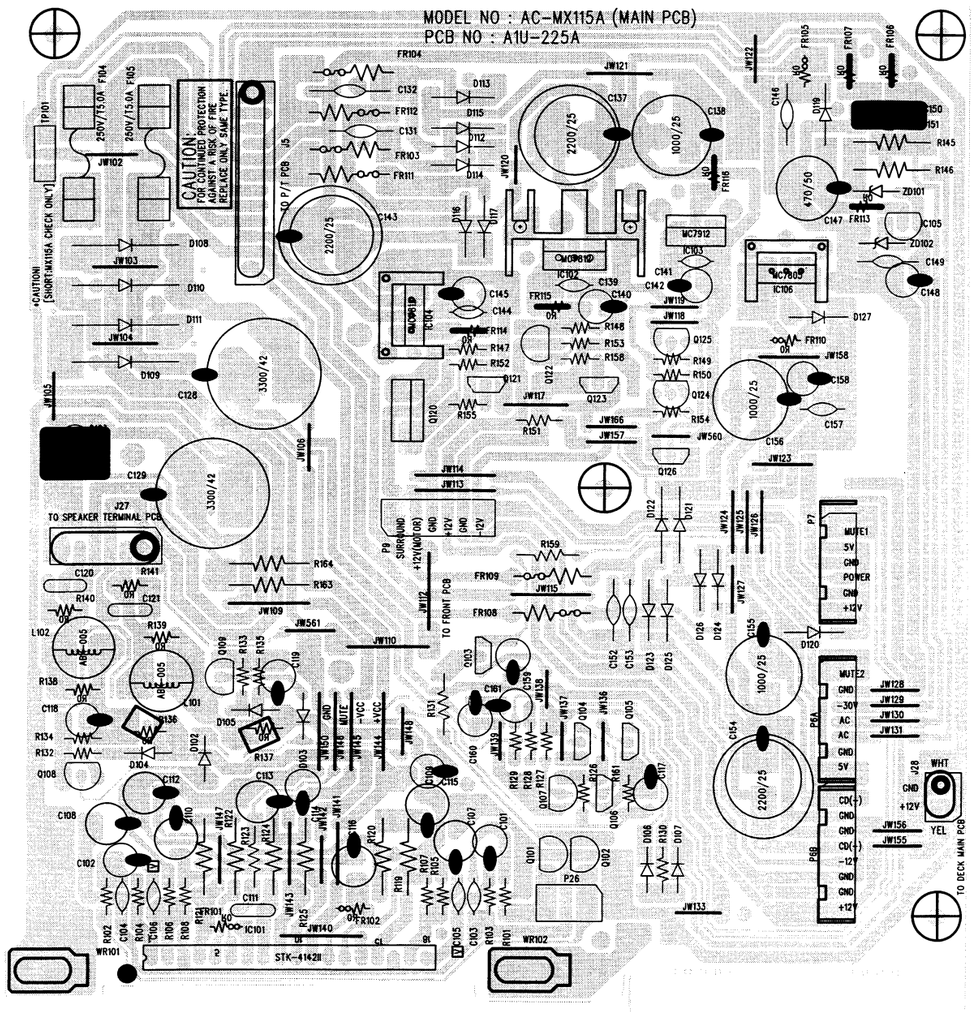


DECK μ -COM P.C BOARD

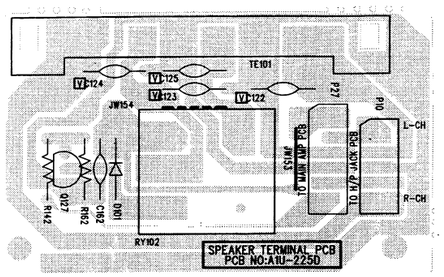


AKAI-01053 / Druck 19

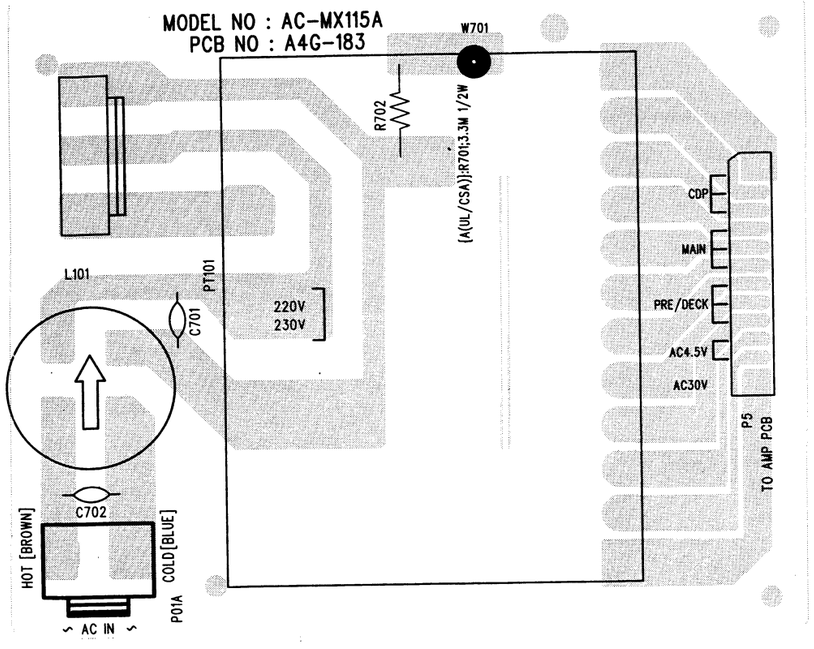
MAIN(POWER) P.C BOARD


MODEL NO : AC-MX115A (MAIN PCB)
PCB NO : A1U-225A
CAUTION
FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY SAME TYPE.
*CAUTION! [SHORT:MX115A CHECK ONLY]
TO P/T PCB
TO SPEAKER TERMINAL PCB
TO FRONT PCB
TO DECK MAIN PCB
STK-4142II

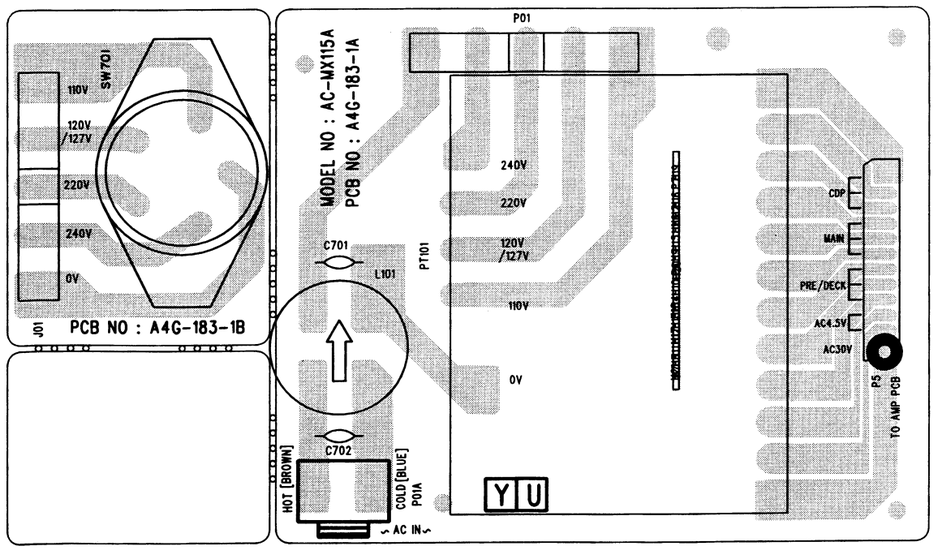
SPEAKER TERMINAL P.C BOARD



P/T P.C BOARD [E, V, S, B]



P/CT P.C BOARD [U, Y]



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V. INFORMATION OF ICs MI-COM

IC201 KS9210 (AC-MX470T CD DIGITAL SIGNAL PROCESSOR)

Pin No.	PORT NAME	I/O	DESCRIPTION
1	SMEF	O	LPF time constant contral signal of the SP motor error signal
2	SMON	O	ON/OFF control signal for the SP motor
3	SMPD	O	SP motor drive
4	SMSD	O	SP motor drive
5	EFMI	I	EFM signal input
6	EFMO	O	Slice level control signal of EFM
7	LOCK	O	Output signal of LKFS conditions sampled PBFR/16
8	Vclo	O	Vco Output, when PBFR is locked
9	Vclo	I	Vco Input, when PBFR is locked
10	GND		GND
11	PHAS	O	Phose compariston output
12	Vss		GND
13	MCK	I	DATA Transportation clock from CD/TUNER MI-COM
14	MLT	I	Lotch clock from CD/TUNER MI-COM
15	MDAT	I	DATA input from CD/TUNER MI-COM
16	XRST	I	Reset input at 'L'
17	TRCK	I	Tracking counter input
18	SENS	O	Audio sequence and detection output
19	MUTEG	I	Muting input
20	CRCF	O	Output the CRC check result of sub mode Q Data
21	SBCK	I	Clock signal to output Subcode Data
22	SDAT	O	Serial output of Subcode Data
23	SODT	O	Output of Subcode Data
24	SOSI	O	Output of Subcode Sync signal (S0+S1)
25	SOCK	I	Clock to output Subcode Q Data
26	GND		GND
27	GND		GND
28	LKFS	O	Output the lock conditions of frome sync
29	GND		GND
30	GND		GND
31	GND		GND
32	GND		GND
33	Vdd		+5v
34	GND		GND
35	GND		GND
36	GND		GND
37	GND		GND
38	GND		GND
39	GND		GND
40	GND		GND

Pin No.	PORT NAME	I/O	DESCRIPTION
41	GND		GND
42	GND		GND
43	GND		GND
44	GND		GND
45	GND		GND
46	GND		GND
47	GND		GND
48	GND		GND
49	GND		GND
50	GND		GND
51	GND		GND
52	GND		GND
53	Xin	I	X'tal OSC input
54	Xout	O	X'tal OSC output
55	GND		GND
56	Vdd		+5V
57	GND		GND
58	GND		GND
59	GND		GND
60	NC		
61	NC		
62	NC		
63	NC		
64	NC		
65	NC		
66	TESTck	O	Test output
67	NC		
68	NC		
69	TEST3	O	Test output (7.7KHz)
70	TEST2	O	Test output (4.32MHz)
71	NC		
72	NC		
73	Vdd		+5V
74	NC		
75	NC		
76	BLCK	O	BIT CLOCK output signal
77	NC		
78	DATA	O	Data output for D/A converter
79	WDCK	O	Strobe signal digital filter
80	CHCK	O	Strobe signal digital filter

IC502 HD407471919A34FS (AC-MX470T FLD & GEQ CONTROL MI-COM)

Pin No.	PORT NAME	I/O	DESCRIPTION
1	6.3KHz	I	
2	16KHz	I	Band frequency level input (6.3KHz/16KHz/TOTAL)
3	TOTAL	I	
4	GND		GND
5	RESET	I	GEQ MI-COM reset input
6	Xin	I	X'tal OSC input
7	Xout	O	X'tal OSC input
8	GND		GND
9	GND		GND
10	NC		
11	Vdd		+5V
12	Vdd		+5V
13	G1	O	
14	G2	O	
15	G3	O	
16	G4	O	
17	G5	O	
18	G6	O	
19	G7	O	
20	G8	O	FLD GRID data output
21	G9	O	
22	G10	O	
23	G11	O	
24	G12	O	
25	G13	O	
26	G14	O	
27	GND	O	GND
28	GND	O	GND
29	SEG1	O	
30	SEG2	O	
31	SEG3	O	
32	SEG4	O	
33	SEG5	O	
34	SEG6	O	
35	SEG7	O	
36	SEG8	O	
37	SEG9	O	
38	SEG10	O	
39	SEG11	O	
40	NC		

Pin No.	PORT NAME	I/O	DESCRIPTION
41	INPUT SEL	I	Function selecter key input (L:key push)
42	GND		GND
43	SOUND CHA	I	Sound charocter key input (L:key push)
44	MEMO	I	Memo key input (L:key push)
45	LEFT	I	Left key input (L:key push)
46	DOWN	I	Down key input (L:key push)
47	UP	I	Up key input (L:key push)
48	RIGHT	I	Right key input (L:key push)
49	GND		GND
50	GND		GND
51	GND		GND
52	GND		GND
53	GND		GND
54	GND		GND
55	GND		GND
56	FLD ON	O	EQ FLD display control output (H:ON)
57	A	O	For switching function output
58	B	O	For switching function output
59	INH	O	For switching function output
60	NC		
61	NC		
62	BUSY	O	Bus busy signal output for CD/TUNER MI-COM
63	Sout	O	Bus data output for CD/TUNER MI-COM
64	Sin	I	Bus data input from CD/TUNER MI-COM
65	SLCK	I	Bus clock input from CD/TUNER MI-COM
66	CK	O	Electric VR control clock output
67	GND		GND
68	DATA	O	Electric VR control output
69	CS	O	Electric VR control output
70	MUTE2	O	AMP mute control output (L:MUTE ON)
71	GND		GND
72	GND		GND
73	GND		GND
74	GND		GND
75	Vdd		+5V
76	63Hz		
77	160Hz		
78	400Hz		Band frequency level input (63Hz/160Hz/400Hz/1KHz/2.5KHz)
79	1KHz		
80	25KHz		

IC501 M38173M6-162FP (AC-MX470T SYSTEM CONTROL MI-COM)

Pin No.	PORT NAME	I/O	DESCRIPTION
1	TUND	I	Tund display input (L:display)
2	FOK	I	Focus lock detection input
3	MUTEG	O	Mute control output
4	DE EMP	O	De emphasis control output
5	BUSY2	I	Bus busy signal input from DECK MI-COM
6	SCLK2	O	Bus clock output for DECK MI-COM
7	SOUT2	O	Bus data output for DECK MI-COM
8	SIN2	I	Bus data input from DECK MI-COM
9	BUSY1	I	Bus busy signal input from GEQ MI-COM
10	SCLK1	O	Bus clock output for GEQ MI-COM
11	SOUT1	O	Bus data output for GEQ MI-COM
12	SIN1	I	Bus data linput from GEQ MI-COM
13	LD ON	O	Laser diode ON/OFF control output
14	RESET OUT	O	DECK/GEQ MI-COM reset signal output
15	SENS	I	Audio sequence end detection input
16	XRESET	O	Reset signal output
17	DATA	O	Command data output for CD
18	XLT	O	Latch signal output
19	CLK	O	Clock signal output
20	TEST OUT	O	Test output
21	CRCF	I	Input to detecth Sub Code-Q CRC check
22	SUBO	I	Input to detect Sub Code-Q data
23	SQCK	O	Reading clock output of Sub Code-Q data
24	SCOR	I	Sub Code-Q data ditect input
25	FA, +5V		+5V
26	IRIN	I	REMOCON signal ditection input
27	RESET	I	Reset input (L:RESET)
28	Xin	I	Main clock input
29	Xout	O	Main clock output
30	Xcin	I	Sub clock input
31	Xcout	O	Sub clock output
32	GND		GND
33	GFS	I	Input to detect PLL lock condition
34	DATA	O	PLL control output
35	CK	O	PLL control output
36	CE	O	PLL control output
37	MONO/STEREO	O	MONO/STEREO control output (H:MONO)
38	MUTE	O	Mute control output (H:MUTE ON)
39	AUTO STOP	I	AUTO STOP detection input (L:AUTO STOP)
40	NC		

Pin No.	PORT NAME	I/O	DESCRIPTION
41	LD−	O	CD tray control output
42	LD+	O	CD tray contral output
43	NC		
44	NC		
45	G01	O	
46	G02	O	
47	G03	O	
48	G04	O	
49	G05	O	
50	G06	O	FLD GRID data output
51	G07	O	
52	G08	O	
53	G09	O	
54	G10	O	
55	G11	O	
56	SEG1	O	
57	SEG2	O	
58	SEG3	O	
59	SEG4	O	
60	SEG5	O	
61	SEG6	O	
62	SEG7	O	
63	SEG8	O	
64	SEG9	O	
65	CDP ON/OFF	O	CD power ON/OFF output (H:power ON)
66	CLOSE	I	Input to detect tray close position
67	OPEN	I	Input to detect tray open position
68	CDP LEAF	I	Input to detect sled inner switch
69	A0	I	
70	A1	I	For switching function input
71	A2	I	
72	12/24	I	
73	Vcc		+5V
74	Vee		−33v
75	GND		GND
76	Vcc		+5V
77	KIN7	I	
78	KIN6	I	KEY input
79	KIN7	I	
80	STEREO	I	STEREO display input (L:display)

IC102 KA8309 (SERVO SIGNAL PROCESSOR : AC-MX470T)

Pin No.	PORT NAME	DESCRIPTION
1	CV	Center voltage
2	HFGD	Reduce high frequency goin with capocitor
3	FS	High frequency goin of focus servo can be changed by switching FS3 on or off
4	LFR	Rieing low frequency bandwidth of facus loop
5	FSEO	Focus servo error output
6	FSEI	Inverting input for focus AMP
7	FSCH	Time constant external pin to generate focus search waveform
8	FSCH	Time constant external pin to switch the tracking gain of high frequency
9	TG	Provide time constant to change the high frequency tracking gain
10	AVcc	Analog positive powar supply
11	TKEO	Tracking error output
12	TKEI	Inverting input for tracking AMP
13	SLEN	Non-inverting input for tracking AMP
14	SLEO	Sled output
15	SLEI	Inverting input for sled AMP
16	STOP	Detecting signal for the ON/OFF limit switch of the innermost part of the disc
17	FSET	Setting the peak frequency of the focus
18	SENS	Output for FZC, AS, TZC, STOP and BUSY
19	AVee	Analog negative power supply
20	CNO	Track number count output
21	DRCT	Control pin for one track jump
22	REST	Reset input
23	SDATA	Serial data input
24	SLOAD	Latch input
25	SCLK	Serial data transfer clock
26	DGND	GND
27	BPF	Provide time constant for the loop filter
28	DPI	Input for detected phose
29	ISET	Current is input, determining the peaks of focus search, track jump, and sled kick
30	FVC	External resistor to adjust free running frequency of VCD
31	3.5V	Regulated output voltage
32	864M	Output of 8.64MHz VCD
33	LOCK	Pin of the operation of the sled runaway prevention circuit at 'L'
34	MDP	Pin for connecting the DSP
35	MON	Pin for connecting the DSP
36	FSW	Providing on external LPF time constant of the GLV servo
37	DVcc	Digital positive power supply
38	SPDLI	Inverting input for SP servo A. IP
39	SPDLO	SP servo error output
40	WDCK	Clock input for outo-sequence
41	FOK	Focus OK signal input
42	MRR	Mirror signal input
43	DVee	Digital negative power supply
44	DFT	Defect signal input
45	TKE	Tracking error signal input
46	TZG	Input for the zero cross tracking comparotor
47	ATS	Input for detect ATSC
48	FCE	Input for focus error signal

IC501 μ PD75108CW-W51 (AC-MX470A DECK MI-COM)

Pin No.	PORT NAME	I/O	DESCRIPTION
1	Ⅱ HALL	I	DECK Ⅱ reel pulse input
2	Ⅰ HALL	I	DECK Ⅰ reel pulse input
3	POWER SW	I	Power switch ON/OFF command input L:ON
4	CD SYNC	I	CD SYNC command input L:ON
5	GND		
6	PTHO2	I	
7	PTHO1	I	Key data input
8	PHITO0	I	
9	GND		
10	GND		
11	NC		
12	NC		
13	NC		
14	BUSY	O	Busy serial data output
15	DATA IN	I	Bus serial data input
16	DATA OUT	O	Bus serial data output
17	CLK	I	Bus clock input
18	GND		
19	NC		
20	NC		
21	MUTE1	O	Power amp MUTE control output H:MUTE ON
22	POWER LED	O	Power LED control output
23	VR UP	O	Main VR control (UP) output H:UP
24	VR DOWN	O	Main VR control (DOWN) output H:DOWN
25	NC		
26	PLUNGER ON	O	Plunger ON/OFF control output
27	M. SPEED	O	Motor x1/x2 speed switching output H:x1 L:x2
28	Ⅱ PLUNGER	O	Plunger ON/OFF control output
29	Ⅰ PLUNGER	O	Plunger ON/OFF control output
30	MOTOR ON	O	Motor control output L:MOTOR ON
31	VCC		+5V Power supply
32	VDD		+5V Power supply
33	POWER ON/OFF	O	Power ON/OFF control output H:POWER ON
34	TEST1		GND
35	TEST2		GND
36	M. ONE/TWO	I	1MOTOR, 2MOTOR selecting channel H:1MOTOR L:2MOTOR
37	Ⅰ Cro2 SW	I	DECK Ⅰ Tape Bias selecting input H:70μ S L:120μ S
38	Ⅰ MODE SW	I	DECK Ⅰ Mode switching input H:STOP L:PLAY
39	Ⅰ HALF SW	I	DECK Ⅰ Pack switching input H:PACK OFF L:PACK ON
40	Ⅱ Cro2 SW	I	DECK Ⅱ Tape Bias selecting input H:70μ S L:120μ S

Pin No.	PORT NAME	I/O	DESCRIPTION
41	REC(RVS) SW	I	DECK Ⅱ Reverse ANTI REC switching input L:REC ON
42	Ⅱ MODE SW	I	DECK Ⅱ Mode switching input H:STOP L:PLAY
43	Ⅱ HALF SW	I	DECK Ⅱ Pack switching input H:PACK OFF L:PACK ON
44	REC(FWD) SW	I	DECK Ⅱ Forward ANTI REC switching input L:REC ON
45	RESET	I	Reset signal input
46	×1	O	Main clock output
47	×2	I	Main clock input
48	REC OSC	O	Bias osc control output H:OSC ON
49	Cro2 REC OSC	O	Cro2 Bias osc control output L:Cro2 OSC ON
50	REC/PB SEL	O	DECK recording/playback control output H:PB L:REC
51	×1 REC PEAK	O	×1/×2 speed recording peaking frequency switching H: ×1
52	×2 REC PEAK	O	×1/×2 speed recording peaking frequency switching H: ×2
53	PB MUTE	O	Playback mute control output H:MUTE ON
54	REC MUTE	O	Recording mute control output H:MUTE ON
55	REC/PB SEL	O	DOLBY recording/playback control output
56	PB Ⅰ/Ⅱ SEL	O	Playback Ⅰ/Ⅱ control output H:TAPE Ⅰ L:TAPE Ⅱ
57	PB Cro2 SEL	O	×1 70μ S, ×2 120μ S EQ control output L:EQ ON
58	×2 PB PEAK	O	×1/×2 speed playback peaking frequency switching
59	×2 PB Cro2	O	×2 70μ S speed playback EQ switching output H:EQ ON
60	GND		
61	GND		
62	GND		
63	GND		
64	GND		